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A survey of linyphiid spiders from Xishuangbanna, Yunnan Province, China (Araneae, Linyphiidae)

Qingyuan Zhao[1], Shuqiang Li[1]

1 *Institute of Zoology, Chinese Academy of Sciences, Beijing 100101, China*

Corresponding author: *Shuqiang Li* (lisq@ioz.ac.cn)

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Abstract

Eight new genera and 30 new species are described: *Cirrosus* **gen. n.** (type species *Cirrosus atrocaudatus* **sp. n.** (♂♀)), *Conglin* **gen. n.** (type species *Conglin personatus* **sp. n.** (♀)), *Curtimeticus* **gen. n.** (type species *Curtimeticus nebulosus* **sp. n.** (♂)), *Gladiata* **gen. n.** (type species *Gladiata fengli* **sp. n.** (♂)), *Glebala* **gen. n.** (type species *Glebala aspera* **sp. n.** (♂)), *Glomerosus* **gen. n.** (type species *Glomerosus lateralis* **sp. n.** (♂)), *Smerasia* **gen. n.** (type species *Smerasia obscurus* **sp. n.** (♂♀)), *Vittatus* **gen. n.** (type species *Vittatus fencha* **sp. n.** (♂♀)); *Batueta cuspidata* **sp. n.** (♂♀), *Capsulia laciniosa* **sp. n.** (♂), *Dactylopisthes separatus* **sp. n.** (♀), *Gongylidiellum bracteatum* **sp. n.** (♀), *Houshenzinus xiaolongha* **sp. n.** (♂♀), *Laogone bai* **sp. n.** (♂), *L. lunata* **sp. n.** (♂♀), *Maro bulbosus* **sp. n.** (♀), *Nasoonaria circinata* **sp. n.** (♂♀), *Neriene circifolia* **sp. n.** (♂♀), *Oedothorax biantu* **sp. n.** (♀), *Oilinyphia hengji* **sp. n.** (♂♀), *Paikiniana furcata* **sp. n.** (♂♀), *Parameioneta bishou* **sp. n.** (♂♀), *P. multifida* **sp. n.** (♂♀), *P. tricolorata* **sp. n.** (♂♀), *Tapinopa undata* **sp. n.** (♂), *Theoa bidentata* **sp. n.** (♂♀), *Theoa vesica* **sp. n.** (♂♀), *Vittatus bian* **sp. n.** (♂♀), *V. latus* **sp. n.** (♂♀), *V. pan* **sp. n.** (♂♀). The male of *Kaestneria bicultrata* Chen & Yin, 2000 and the females of *Asiagone perforata* Tanasevitch, 2014 and *Batueta similis* Wunderlich & Song, 1995 are described for the first time; photos of *Bathyphantes paracymbialis* Tanasevitch, 2014 are provided.

Keywords

New species, new genus, biodiversity, Southeast Asia, Linyphiinae, Micronetinae, Erigoninae, taxonomy

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Introduction

The Linyphiidae is the second most diverse spider family in the world (Platnick 2014). Merrett (1963) studied the detailed structure of male palps of 124 British linyphiids, and grouped them into linyphiines and erigonines; Millidge made a great effort to identify the major lineages of the Linyphiidae based on male palpal morphology (1977), epigynal and tracheal system morphology (1984) respectively, and acknowledged seven subfamilies or groups (1993); Hormiga (2000) integrated a numerical cladistic method in his analysis of erigonine phylogenetic relationships, and found support for the monophyly of the subfamily Erigoninae. As suggested by Tanasevitch (2014a), the Linyphiidae should now be divided into the seven subfamilies: Dubiaraneinae Millidge, 1993, Erigoninae Emerton, 1882, Ipainae Saaristo, 2007, Linyphiinae Blackwall, 1859, Micronetinae Hull, 1920, Mynogleninae Lehtinen, 1967 and Stemonyphantinae Wunderlich, 1986.

It is commonly acknowledged that the linyphiid spiders are the dominant spider group of the temperate and cold regions of the northern hemisphere (Marusik and Koponen 2002; Paquin and Dupérré 2003; Scharff et al. 2003; Scharff and Gudik-Sørensen 2006). Although the study of its diversity is still immature, the family seems to be much less diverse in the subtropical and tropical regions (Scharff 1990; Sørensen et al. 2002; Floren and Deeleman-Reinhold 2005). Only a few works have focused upon the Linyphiidae in Southeast Asia (Thorell 1898; Locket 1982; Millidge and Russell-smith 1992; Millidge 1995; Tanasevitch 2010; Tanasevitch 2014b). Thorell described eight *Erigone* species and two *Linyphia* species from Myanmar (Thorell 1895, 1898) but the lack of illustrations in these two works made it difficult to use them for further identifications; Thorell's work was later revised by van Helsdingen (1969) and Tanasevitch (2010) respectively, and useful figures were added; Locket (1982) investigated linyphiid species from western Malaysia, from where fourteen species were reported and five new genera were established; eleven new genera of Linyphiidae from rain forests of Southeast Asia were described by Millidge and Russell-Smith (1992); Tanasevitch (2014b) established two new genera from Laos: *Asiagone* Tanasevitch, 2014, and *Laogone* Tanasevitch, 2014, and in addition, he reported 6 new species.

Xishuangbanna of southern Yunnan belongs to the transitional zone from tropical southern Asia to subtropical East Asia (Zhu et al. 2006). Only a small number of linyphiid spiders have been reported from Xishuangbanna in the past studies, in contrast with the large number of spiders of less diverse groups found there (Tang and Li 2010; Gao and Li 2014). In 1995, one new genus *Nasoonaria* Wunderlich &

Song, 1995 from Xishuangbanna, Yunnan was established and two new species were described: *Nasoonaria sinensis* Wunderlich & Song, 1995 and *Batueta similis* Wunderlich & Song, 1995, the latter is the first species of genus *Batueta* Locket, 1982 to be found outside of western Malaysia (Wunderlich and Song 1995), where this genus was originally described. In 2010, a new species *Neriene poculiforma* Liu & Chen, 2010 was reported from Xishuangbanna, Yunnan (Liu and Chen 2010), which is the twenty-ninth *Neriene* species found in China, making China the country harboring almost half of the total number of *Neriene* species.

Our research on the linyphiids in the tropical rain forest in Xishuangbanna of southern Yunnan has revealed 30 new species, together with 18 species already described, making a total of 48 from this tropical area.

Material and methods

Specimens in this study were mainly collected by fogging, trapping, sieving and hand-collecting from tree canopy, tree trunks, and leaf-litter in tropical rain forest in Xishuangbanna, Yunnan (the four main collection localities are shown in Fig. 120). Collections were made throughout the year by Qingyuan Zhao, Guo Zheng, Zhiyuan Yao, Zhigang Chen and Guo Tang. Unless otherwise indicated all type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS).

Specimens were examined using a LEICA M205 C stereomicroscope. Further details were studied under a BX51 compound microscope. Most illustrations were made using a camera lucida attached to an Olympus BX51 compound microscope, and then inked on ink jet plotter paper, and the rest were made from photographs. Male and female genitalia were examined and illustrated after being dissected from the spiders.

Left male palps are illustrated, except as otherwise indicated; photos and illustrations of right palps are flipped in figures to allow easy comparison with other species. Epigynes were removed and cleared in lactic acid or warm 10% potassium hydroxide (KOH) solution before illustration. All embolic divisions and vulvae were imaged after being embedded in Arabic gum. Photos were taken with an Olympus c7070 wide zoom digital camera (7.1 megapixels) mounted on an Olympus BX51 compound microscope. Images from multiple focal planes were combined using Helicon Focus (version 3.10) image stacking software. All measurements are given in millimeters. Eye diameters were measured at their widest extent. Leg measurements are shown as: total length (femur, patella, tibia, metatarsus, tarsus). The terminology of Erigoninae genitalic structure follows Hormiga (2000) and Tanasevitch (2014b); the nomenclature of Micronetinae genitalic structure is given after Saaristo and Tanasevitch (1996); the names of Linyphiinae copulatory organs follow van Helsdingen (1969).

Metatarsal trichobothrium (Tm) is given as the ratio of the distance between the proximal margin of the metatarsus and the root of the trichobothrium divided by the total length of the metatarsus (Denis 1949; Locket and Millidge 1953) and Tm value for the first and the fourth leg is given as TmI, TmIV respectively.

Table 1. DNA data information of species included in the phylogenetic analysis.

Genus	Species	COI	Genus	Species	COI
Batueta	*cuspidata* ♀	KP176798	*Theoa*	*vesica* ♀	KP176814
	cuspidata ♂	KP176799		*vesica* ♂	KP176815
	similis ♀	KP176800	*Vittatus*	*bian*	KP176816
	similis ♂	KP176801		*fencha* ♀	KP176817
Cnephalocates	*obscurus*	KC502219		*fencha* ♂	KP176818
Dismodicus	*decemoculatus*	KF368011		*latus*	KP176819
Drapetisca	*alteranda*	HQ979336		*pan*	KP176820
Estrandia	*grandaeva*	KF368087			
Frontinella	*communis*	HQ924611			
Gladiata	*fengli* ♀	KP176802			
	fengli ♂	KP176803			
Houshenzinus	*xiaolongha* ♀	KP176804			
	xiaolongha ♂	KP176805			
Incestophantes	*washingtoni*	KF368176			
Islandiana	*flaveola*	HQ924579			
Kaestneria	*pullata*	KF368179			
Linyphantes	*orcinus*	HQ580723			
Linyphia	*triangularis*	FR775771			
Macrargus	*multesimus*	HM434066			
Mermessus	*maculatus*	HQ979210			
Microlinyphia	*mandibulata*	GU682937			
Nasoonaria	*circinata* ♀	KP176806			
	circinata ♂	KP176807			
Neriene	*clathrata*	HQ924547			
Oedothorax	*trilobatus*	GU684170			
Parameioneta	*tricolorata* ♀	KP176808			
	tricolorata ♂	KP176809			
Pityohyphantes	*subarcticus*	KF368753			
Poeciloneta	*fructuosa*	HQ580516			
Satilatlas	*marxi*	KF368759			
Scotinotylus	*alpinus*	GU684443			
Smerasia	*obscurus* ♀	KP176810			
	obscurus ♂	KP176811			
Souessa	*spinifera*	KF368806			
Stemonyphantes	*blauveltae*	HM434067			
Tachygyna	*ursina*	HQ580722			
Theoa	*bidentata* ♀	KP176812			
	bidentata ♂	KP176813			

The tibial spine formula, which expresses the number of dorsal tibial spines on each of legs I to IV, is given for species in which it differs from the type species of the genus. The patellar spine formula is given only if it differs from the most common one (1-1-1-1).

For the known species only the references for their original description and the synonyms of their current valid names are given. All the other synonyms and references are listed in Platnick's world spider catalog (2014).

Several species collected from canopy possessed a similar habitus. To verify the accuracy of pairing, the canopy linyphiids specimens were sequenced for DNA barcodes with the primers: 5'-GGTCAACAAATCATAAAGATATTGG-3' and 5'-TAAACTTCAGGGTGACCAAAAAATCA-3' (Folmer et al. 1994). This sequence data set, together with COI sequences of linyphiid spiders from BOLD (http://www.boldsystems.org) (see more information in Table 1), was analysed using MEGA 5 (Tamura et al. 2011) and a Neighbor-joining tree was constructed.

Abbreviations and conventions. Abbreviations used in the text are given in Table 2. References to figures in cited papers are listed in lowercase type (fig.); figures of this paper are noted with an initial capital (Fig.).

When extra materials are examined and recorded, and the paratype's collecting information is the same as holotype's, it will be implied in brackets as [same data as holotype].

Table 2. List of anatomical abbreviations used in the text and figures.

Male palp	
AC	apophysis of convector
ALP	anterior projection of lamella
APC	anterior process of convector
APE	anterior projection of embolic plate
ARP	anterior radical process
ATA	anterior part of terminal apophysis
CV	convector
DC	distal apophysis of convector
DPE	dorsal projection of embolic plate
DSA	distal suprategular apophysis
DTA	distal tibial apophysis
E	embolus
EP	embolus proper
EPL	embolic plate
EBL	embolic basal lobe
F	flag
FG	Fickert's gland
L	lamella
LC	lamella characteristica
LLP	lateral projection of lamella
MA	median apophysis
MM	median membrane
MS	membrosclerum
P	parmula
PC	paracymbium
PCA	proximal cymbial apophysis
PH	pit hook

PL	pseudolamella
PLP	posterior projection of lamella
PT	protegulum
PTA	prolateral tibial apophysis
R	radix
RA	radical apophysis
RBP	retrobasal cymbial process
RTA	retrolateral tibial apophysis
ST	subtegulum
T	tegulum
TA	terminal apophysis of radix
TH	thumb of embolus
TP	tailpiece of radix
Epigyne	
CD	copulatory duct
CO	copulatory opening
DP	dorsal plate
DPS	distal part of scape
FD	fertilization ducts
FO	fertilization opening
MPS	median part of scape
PI	pit
PMP	posterior median plate
PPS	proximal part of scape
PS	proscape
PW	posterior wall of epigyne
S	spermatheca
SC	scape
SCD	scapoid
St	stretcher
VP	ventral plate
Somatic morphology	
ALE	anterior lateral eye
AME	anterior median eye
AME-ALE	distance between AME and ALE
AME-AME	distance between AME and AME
PLE	posterior lateral eye
PME	posterior median eye
PME-PLE	distance between PME and PLE
PME-PME	distance between PME and PME

Taxonomy

Family Linyphiidae Blackwall, 1859

Genus *Agyneta* Hull, 1911

Agyneta: Hull 1911: 583. Type species *Neriene decora* O. P.-Cambridge, 1871.

Agyneta nigra (Oi, 1960)

Meioneta nigra: Oi 1960: 211, figs 318–321 (♂♀).
Agyneta nigra: Tanasevitch 2005: 170, figs 26–30 (♂).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°55.035'N, 101°16.500'E, elevation ca 588 m, 1.–15.07.2007, primary tropical seasonal rain forest, pitfall traps.

Distribution. China, Korea, Japan, Mongolia, Russia.

Remarks. Lamella characteristica of our specimen matches those illustrated by Saito (Saito 1983: 52, fig. 7) and differ slightly from Tanasevitch's (Tanasevitch 2005: 170, figs 26–23).

Genus *Asiagone* Tanasevitch, 2014

Asiagone: Tanasevitch 2014b: 69. Type species *Asiagone signifera* Tanasevitch, 2014 from Laos.

Asiagone perforata Tanasevitch, 2014

Figs 1–4

Asiagone perforata: Tanasevitch 2014b: 69, figs 7–14 (♂).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.669'N, 101°11.893'E, elevation ca 790 m, 16.–24.09.2006, primary tropical seasonal rain forest, pitfall traps; 1♂2♀, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 10.–14.08.2006, primary tropical seasonal rain forest, pitfall traps; 1♂, 21°57.669'N, 101°11.893'E, elevation ca 790 m, 16.–24.08.2006, primary tropical seasonal rain forest, pitfall traps; 1♂, 21°54.984'N, 101°16.982'E, elevation ca 656 m, 1.–9.11.2006, secondary tropical seasonal moist forest, pitfall traps; 1♀, 21°54.718'N, 101°16.940'E, elevation ca 645 m, 19.–25.12.2006, secondary tropical seasonal moist forest, pitfall traps; 2♂, 21°57.669'N, 101°11.893'E, elevation ca 790 m, 16.–28.02.2007, primary tropical seasonal rain forest, pitfall traps; 1♂4♀, 21°54.607'N, 101°17.005'E, elevation ca 633 m, 1.–15.04.2007, secondary tropical seasonal moist forest, pitfall traps; 1♂1♀, 21°54.984'N, 101°16.982'E, elevation ca 656 m, 1.–15.04.2007, secondary tropical seasonal moist forest, pitfall traps; 3♂1♀, 21°54.767'N, 101°11.431'E, elevation ca 880 m, 16.–31.04.2007, secondary tropical montane evergreen broad-leaved forest, pitfall traps; 3♂2♀, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 1.–15.07.2007, primary tropical seasonal rain forest, pitfall traps; 3♂2♀, 21°54.607'N, 101°17.005'E, elevation ca 633 m, 1.–15.07.2007, secondary tropical seasonal moist forest, pitfall traps.

Diagnosis. This genus was described from Laos by Tanasevitch (2014b), including two species: *A. signifera* Tanasevitch, 2014 and *A. perforata* Tanasevitch, 2014. The male is diagnosed as *A. perforata* by the long, whip-like embolus equipped with a leaf-shaped process at the approximately midpoint (Fig. 1D), horn-shaped distal apophysis of convector (Fig. 2A), and convector's membraniform extension that covers most part of bulb in prolateral view (Figs 1A, 4A). The female is described for the first time; it possesses a distinct lump-shaped epigyne (Fig. 3A), in which ventral and dorsal plates are fused and the margin of plates is indistinct (Fig. 3B–C).

Description. Male. Well described, e. g. by Tanasevitch (2014b).

Female (one of females from Xishuangbanna). Total length: 2.13. Carapace 0.75 long, 0.63 wide, unmodified, brownish yellow with dark outer margin (Fig. 3D). Sternum 0.41 long, 0.50 wide. Clypeus 0.13 high. Chelicerae promargin with 6 teeth, retromargin with 5 teeth. Eye sizes and interdistances: AME 0.06, ALE 0.08, PME 0.08, PLE 0.08, AME-AME/AME 0.33, PME-PME/PME 0.63, AME-ALE/ALE 0.63, PME-PLE/PLE 0.63, coxae IV separated by 1.43 times their width. Length of legs: I 3.70 (1.04, 0.24, 0.96, 0.88, 0.58), II 3.85 (0.96, 0.25, 1.06, 0.92, 0.66), III 2.95 (0.83, 0.23, 0.70, 0.72, 0.47), IV 3.72 (1.00, 0.20, 1.00, 0.96, 0.56). Leg formula: II-IV-I-III. TmI 0.38, TmIV 0.31. Tibial spine formula: 2-2-1-1. Abdomen pale, with dark green patches. Epigyne: lump-shaped (Fig. 3A), copulatory openings ambiguous; copulatory ducts long and twirled (Figs 3C, 4D); spermathecae widely separated (Fig. 3C).

Distribution. China, Laos.

Remarks. Female of the species is reported for the first time.

Genus *Atypena* Simon, 1894

Atypena: Simon 1894: 668. Type species *Atypena superciliosa* Simon, 1894 from Southeast Asia.

Atypena cirrifrons (Heimer, 1984)

Paranasoona cirrifrons: Heimer 1984: 87, figs 1–8 (♂♀).
Atypena cirrifrons: Tanasevitch 2014b: 72.

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°54.738'N, 101°16.940'E, elevation ca 645 m, 19.–25.12.2006, secondary tropical seasonal rain forest, hand-collecting; 1♂, 21°54.607'N, 101°17.005'E, elevation ca 633 m, 19.–26.05.2007, secondary tropical seasonal rain forest, hand-collecting; 1♀, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 18.07.2007, *Paramichelia baillonii* plantation, fogging; 1♂, 21°54.705'N, 101°16.898'E, elevation ca 664 m, 15.11.2009, Lvshilin tropical rain forest, fogging; 1♂, 21°54.609'N,

101°17.190'E, elevation ca 643 m, 17.11.2009, Lvshilin tropical rain forest, fogging; 1♀, 21°53.833'N, 101°17.001'E, elevation ca 618 m, 25.11.2009, teak plantation, fogging; 1♂, 21°53.992'N, 101°16.948'E, elevation ca 590 m, 2.12.2009, G213 Road, *Anogeissus acuminate* plantation, fogging.

Distribution. South China, Vietnam and Laos.

Genus *Bathyphantes* Menge, 1866

Bathyphantes: Menge 1866: 116. Type species *Bathyphantes longipes* Menge, 1866 (= *B. gracilis* (Blackwall, 1841)).

Bathyphantes paracymbialis Tanasevitch, 2014

Figs 5–8

Bathyphantes paracymbialis: Tanasevitch 2014b: 73, figs 15–23 (♂♀).

Material examined. 2♂2♀: CHINA, Yunnan: Menglun town: Xishuangbanna Nature Reserve, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 1.–15.03.2007, primary tropical seasonal rain forest, pitfall traps; 1♀, 21°57.669'N, 101°12.893'E, elevation ca 790 m, 19.–25.10.2006, primary tropical seasonal rain forest, pitfall traps; 2♀, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 16.–24.11.2006, primary tropical seasonal rain forest, pitfall traps; 1♂, 21°57.669'N, 101°12.893'E, elevation ca 790 m, 1.–9.12.2006, primary tropical seasonal rain forest, pitfall traps; 1♂, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 5.–12.01.2007, primary tropical seasonal rain forest, hand-collecting; 3♂2♀, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 16.–28.02.2007, primary tropical seasonal rain forest, pitfall traps.

Diagnosis. The male can be diagnosed by the small dorsal projection of embolic plate (Tanasevitch 2014b: fig. 16; Fig. 5A, D), two finger-like extensions of distal suprategular apophysis (Fig. 5C–D), and the slimmer embolus forming two coils (Fig. 5C). It differs from *B. floralis* Tu & Li, 2006 by the shape of paracymbium: 'U'-shaped, with a blunt distal end in *B. floralis* (Tu and Li 2006: fig. 1B), whereas 'J'-shaped, with a small projection at the paracymbium in *B. paracymbialis* (Tanasevitch 2014b: fig. 17; Fig. 5B). The female is recognized by the short parmula and copulatory ducts (Tanasevitch 2014b: figs 21–22; Fig. 7A–C).

Description. Well described by Tanasevitch (2014b).

Distribution. China, Laos.

Genus *Batueta* Locket, 1982

Batueta: Locket 1982: 372. Type species *Batueta voluta* Locket, 1982 from Malaysia.

***Batueta cuspidata* sp. n.**
http://zoobank.org/585AF82A-32FE-40B7-A365-B2AF671FAE44
Figs 9–12

Types. Holotype ♂: CHINA, Yunnan: Mengla County: Xishuangbanna Nature Reserve, Xiaolongha biodiversity preservation corridor, 21°24.161'N, 101°36.412'E, elevation ca 791 m, 16.06.2013, tropical seasonal rain forest, sieving. Paratypes 5♂, same data as holotype; 2♀, Xishuangbanna Tropical Botanical Garden, 21°55.551'N, 101°16.923'E, elevation ca 561 m, 5.–12.10.2007, rubber-tea plantation, hand-collecting; 1♀, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 16.–31.06.2007, *Paramichelia baillonii* plantation, hand-collecting.

Etymology. The name is derived from the Latin 'cuspidatus', which means 'pointed end', referring to the sharp tip of the lateral apophysis of the convector; adjective.

Diagnosis. This new species is mostly related to *B. voluta* Locket, 1982 and *B. similis* Wunderlich & Song, 1995, and can be distinguished from them by the two basal outgrowths of cymbium: one is broad, the other is blunt (Fig. 10A), while *B. similis* has two slim and curved outgrowths. The convector in *B. cuspidata* is well-developed, anterior branch long and erect, slightly folded distally (Figs 9A, 10B), in contrast with the short and pointed ones in *B. voluta* (Locket 1982: fig. 58) and *B. similis* (Wunderlich and Song 1995: fig. 10). The female is diagnosed by its spiraling copulatory ducts in epigyne (Fig. 11C), which was not clearly noted in Locket's work, but its ventral plate resembles that in *B. voluta* (Locket 1982: figs 62–63).

Description. Male (holotype). Total length: 1.25. Carapace 0.63 long, 0.48 wide, orange, covered with deep impressions; ocular area elevated. Sternum 0.34 long, 0.34 wide. Clypeus 0.16 high. Chelicerae promargin with 3 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.06, PLE 0.06, AME-AME/AME 0.20, PME-PME/PME 0.67, AME-ALE/ALE 0.50, PME-PLE/PLE 0.33, coxae IV separated by 1.1 times their width. Length of legs: I 2.49 (0.63, 0.16, 0.69, 0.56, 0.45), II 2.14 (0.55, 0.16, 0.56, 0.47, 0.40), III 1.66 (0.41, 0.14, 0.41, 0.39, 0.31), IV 2.19 (0.55, 0.18, 0.56, 0.50, 0.40). Leg formula: I-IV-II-III. TmI 0.16, TmIV absent. Tibial spine formula: 1-1-1-1. Palp: patella with a thick dorsal spine, tibia without apophysis (Figs 9A–B, 10A–B). Cymbium with wide basal outgrowth, the tip of which with two small extensions turning clockwise in dorsal view (in left palp) (Fig. 10A); convector with three arms: anterior arm upright with a folded tip; ventral one with a black pointed tip; posterior one with hooked distal end (Fig. 9A, C); embolus whip-like, forming a coil (Fig. 10B).

Female (one of paratypes). Total length: 1.18. Carapace 0.55 long, 0.45 wide, yellow with green undertone. Sternum 0.32 long, 0.30 wide. Clypeus 0.11 high. Chelicerae promargin with 3 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.03, ALE 0.05, PME 0.08, PLE 0.05, AME-AME/AME 0.33, PME-PME/PME 0.38, AME-ALE/ALE 0.60, PME-PLE/PLE 0.12, coxae IV separated by 2.9 times their width. Length of legs: I 2.08 (0.52, 0.16, 0.55, 0.41, 0.44), II 1.87 (0.48, 0.16, 0.47, 0.40, 0.36), III 1.56 (0.39, 0.16, 0.36, 0.33, 0.32), IV 1.99 (0.54, 0.18, 0.49, 0.40, 0.38). Leg formula: I-IV-II-III. TmI 0.20, TmIV absent. Tibial spine formula:

1-1-1-1. Abdomen greenish grey with irregular dark patches. Epigyne: ventral plate with three posterior projections, the middle one slightly bigger than the others (Fig. 11A); dorsal plate tongue-shaped (Fig. 11B); copulatory ducts following a double spiral pathway before joining spermathecae (Fig. 11C); spermathecae kidney-shaped, close to each other (Figs 11C, 12B).

Distribution. Known only from type localities.

Batueta similis Wunderlich & Song, 1995

Figs 13–16

Batueta similis: Wunderlich and Song 1995: 345, figs 9–10 (♂).

Material examined. 2♂, CHINA, Yunnan: Menglun Town: Xishuangbanna, Tropical Botanical Garden 21°54.200'N, 101°16.923'E, elevation ca 608 m, 16.–24.11.2006, *Paramichelia baillonii* plantation, pitfall traps; 1♂, 21°53.823'N, 101°17.072'E, elevation ca 613m, 1.–9.12.2006, *P. baillonii* plantation, pitfall traps; 1♂, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 16.–24.12.2006, *P. baillonii* plantation, pitfall traps; 1♀, 21°54.200'N, 101°16.923'E, elevation ca 608 m, 19.–25.01.2007, *P. baillonii* plantation, hand-collecting; 1♀, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 19.–26.03.2007, *P. baillonii* plantation, pitfall traps; 2♀, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 1.–15.04.2007, *P. baillonii* plantation, pitfall traps; 1♀, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 10.–20.06.2007, *P. baillonii* plantation, hand-collecting; 1♀, 21°54.200'N, 101°16.923'E, elevation ca 608 m, 1.–15.07.2007, *P. baillonii* plantation, pitfall traps.

Diagnosis. This species is distinguished from *B. cuspidata* sp. n. by a small dorsal plate of epigyne, shorter route and fewer turnings of copulatory ducts (Figs 15C, 16B). The spermathecae are not obviously present in this species (Fig. 15C).

Description. Male. Well described, e. g. by Wunderlich and Song (1995).

Female (one of females from Xishuangbanna). Total length: 1.00. Carapace 0.50 long, 0.47 wide, earthy yellow. Sternum 0.28 long, 0.29 wide. Clypeus 0.08 high. Chelicerae promargin with 3 teeth, retromargin with 2 teeth. Eye sizes and interdistances: AME 0.05, ALE 0.05, PME 0.06, PLE 0.05, AME-AME/AME 0.40, PME-PME/PME 0.50, AME-ALE/ALE 0.20, PME-PLE/PLE 0.50, coxae IV separated by 1.22 times their width. Length of legs: I 1.85 (0.45, 0.15, 0.50, 0.40, 0.35), II 1.70 (0.44, 0.16, 0.43, 0.36, 0.31), III 1.23 (0.28, 0.09, 0.31, 0.30, 0.25), IV 1.80 (0.47, 0.16, 0.47, 0.39, 0.31). Leg formula: I-IV-II-III. TmI 0.24, TmIV absent. Tibial spine formula: 1-1-1-1. Abdomen greenish brown. Epigyne: ventral plate half-rounded, posterior margin smooth and hairless (Figs 15A, 16A); dorsal plate small, elliptical (Fig. 15C); copulatory ducts long, forming a helical structure (Figs 15C, 16B); fertilization openings conspicuous, close to copulatory openings (Fig. 15B).

Distribution. China.

Remarks. Female of the species is reported for the first time.

Genus *Capsulia* Saaristo, Tu & Li, 2006

Capsulia: Saaristo et al. 2006: 393. Type species *Centromerus tianmushanus* Chen & Song, 1987 from China.

Capsulia laciniosa sp. n.

http://zoobank.org/A5DC95E2-B3DA-42F9-A92C-F9110B06F90A
Figs 17–19

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna, Tropical Botanical Garden 21°53.833'N, 101°17.001'E, elevation ca 618 m, 25.11.2009, teak plantation, fogging.

Comparative material. *Capsulia tianmushana* (Chen & Song, 1987), holotype ♂: CHINA, Zhejiang: Xinmaopeng Town: Mt. Tianmushan, 30°2.400'N, 119°3.000'E, 3.04.1983.

Etymology. This name is derived from the Latin word 'laciniosus', which means 'indented', referring to the jagged fringe of the anterior terminal apophysis; adjective.

Diagnosis. This species is similar to *C. tianmushana* (Chen & Song, 1987) greatly, but differs by the following aspects: the edge of anterior terminal apophysis in *C. laciniosa* sp. n. is dentate (Fig. 18C), but smooth in *C. tianmushana*; the apex of pseudolamella in *C. tianmushana* is broad and strongly papillate (Saaristo et al. 2006: figs 18, 19, 21), while narrower and slightly bifurcate in *C. laciniosa* sp. n. (Fig. 17A–C); the thumb of embolus in *C. laciniosa* sp. n. is wider, but less pointed (Fig. 17C).

Description. Male (holotype). Total length: 1.85. Carapace 0.90 long, 0.75 wide, yellow. Sternum 0.50 long, 0.50 wide, dark green. Clypeus 0.13 high. Chelicerae promargin with 3 teeth, retromargin with no teeth. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.06, PLE 0.05, AME-AME/AME 0.32, PME-PME/PME 0.17, AME-ALE/ALE 0.33, PME-PLE/PLE 0.50, coxae IV separated by 1.14 times their width. Length of legs: I 3.06 (0.81, 0.25, 0.88, 0.64, 0.48), II 2.91 (0.78, 0.28, 0.76, 0.62, 0.47), III 2.51 (0.65, 0.26, 0.60, 0.60, 0.40), IV 3.33 (0.91, 0.23, 0.94, 0.79, 0.46). Leg formula: IV-I-II-III. TmI 0.25, TmIV absent. Tibial spine formula: 2-2-2-2. Abdomen dark green, with pale transversal stripes. Palp: tibia with two retrolateral trichobothria and one prominent ventral outgrowth equipped with three long setae at tip (Figs 17B, 18B); cymbium with a pointed outgrowth (Figs 17A–B, 19A–B); paracymbium broad at base, 'V'-shaped, with one folded and slightly bifurcate tip (Figs 17B, 18B); protegulum somewhat triangular; pit hook short and pointed (Fig. 17D). Anterior terminal apophysis broad at tip, with jagged fringe (Figs 17C, 18B); posterior terminal apophysis stout, with sharp end (Fig. 17C); median membrane short, with fringed tip (Fig. 18C); pseudolamella long and curved, with papillate apex (Fig. 17A–B); embolus mesally broad with a

pointed tip (Fig. 17C); radix narrow distally with a folded anterior radical process, tailpiece small (Fig. 17A).

Female. Unknown.

Distribution. Known only from type locality.

Genus *Cirrosus* gen. n.

http://zoobank.org/4C3D37F2-F8FB-4BD9-BC35-E1CE80C2FDC4

Type species. *Cirrosus atrocaudatus* sp. n.

Etymology. The generic name is an arbitrary combination of letters. Gender is masculine.

Diagnosis. This new genus is distinguished from all other linyphiids by its unique structure of embolic division, notably, by its hooked distal suprategular apophysis running along the tegulum (Fig. 20B), and long, filiform embolus, starting from the prolateral side of the embolic division, forming several coils (Fig. 20A, C–D), which is rarely seen in other genera.

Description. Small sized Erigoninae. Carapace light yellow, unmodified in both sexes. Chelicerae with 4 promarginal and 3 retromarginal teeth. Chaetotaxy: tibial spine formula: 1-1-1-1. TmI ca 0.70, TmIV ca 0.70. Abdomen pale.

Male palp: tibia short, conical, with one retrolateral trichobothrium; tibial dorsal apophysis small and with a small patch of dark papillae (Figs 20B, 21A). Paracymbium 'J'-shaped, hooked at tip (Figs 20B, 23B), broad in ventral view (Fig. 21B). Distal suprategular apophysis wavy, with a sharp, erect tip in retrolateral view (Fig. 20D); anterior radical process flat, somewhat knob-shaped in lateral view (Fig. 20A–D); embolus long, filiform, and curled up (Fig. 20C–D).

Epigyne: wide, with copulatory openings at the junction of two plates; copulatory ducts short, simple (Figs 22C, 23D); spermathecae somewhat rounded, separated by 1.5 diameter (Fig. 21B–C).

Species composition. Type species only: *Cirrosus atrocaudatus* sp. n.

Distribution. China.

Remarks. The presence of long, coiled embolus and prominent anterior radical process indicate that it might be distantly related to Southeast Asian genus *Laogone* Tanasevitch, 2014, but close relatives are difficult to hypothesize.

Cirrosus atrocaudatus sp. n.

http://zoobank.org/CEE65301-FC9C-4195-9514-F169FA2E38FA

Figs 20–23

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.600'N, 101°17.084'E, elevation ca 640 m, 17.11.2009,

Lvshilin tropical rain forest, fogging. Paratypes 1♂, same data as holotype; 1♂, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 22.07.2009, primary tropical seasonal rain forest, fogging; 3♂1♀, 21°53.646'N, 101°16.957'E, elevation ca 589 m, 26.11.2009, bamboo plantation, fogging.

Etymology. The name for this species comes from the Latin word 'ater' and 'cauda'. The former means 'black', and the latter means 'tail'. The combination refers to the dark end of the male's abdomen; adjective.

Diagnosis. See diagnosis of the genus.

Description. Male (holotype). Total length: 1.41. Carapace 0.63 long, 0.50 wide, unmodified, light yellow. Sternum 0.31 long, 0.38 wide. Clypeus 0.19 high. Chelicerae promargin with 4 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.07, PLE 0.06, AME-AME/AME 0.33, PME-PME/PME 0.57, AME-ALE/ALE 0.33, PME-PLE/PLE 0.13, coxae IV separated by 1.92 times their width. Length of legs: I 2.05 (0.56, 0.18, 0.50, 0.50, 0.31), II 2.19 (0.61, 0.17, 0.55, 0.55, 0.31), III 1.64 (0.45, 0.16, 0.34, 0.42, 0.27), IV 2.02 (0.55, 0.17, 0.47, 0.52, 0.31). Leg formula: II-I-IV-III. Abdomen pale, with black posterior tip (Fig. 21C). Palp: see description of the genus.

Female (one of paratypes). Total length: 1.30. Carapace 0.60 long, 0.46 wide, tanned. Sternum 0.36 long, 0.33 wide. Clypeus 0.14 high. Chelicerae promargin with 4 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.03, ALE 0.04, PME 0.04, PLE 0.05, AME-AME/AME 0.10, PME-PME/PME 0.10, AME-ALE/ALE 0.20, PME-PLE/PLE 0.40, coxae IV separated by 1.60 times their width. Length of legs: I 1.76 (0.50, 0.19, 0.40, 0.38, 0.29), II 2.02 (0.53, 0.18, 0.46, 0.44, 0.31), III 1.46 (0.39, 0.16, 0.30, 0.34, 0.27), IV 1.86 (0.48, 0.16, 0.48, 0.45, 0.29). Leg formula: II- IV-I-III. Abdomen beige, with dark posterior tip. Epigyne: see description of the genus.

Distribution. Known only from type localities.

Genus *Conglin* gen. n.

http://zoobank.org/D23AAAD0-13CF-4543-86B3-F037B2ED682E

Type species. *Conglin personatus* sp. n.

Etymology. The generic name is derived from the Chinese Pinyin 'cóng lín', meaning 'forest', in reference to habitat of the new genus. Gender is masculine.

Diagnosis. This genus is diagnosed by its complexly routed copulatory ducts and the extended posterior end of the epigynal plate, not found in any other Southeast Asian erigonines (Fig. 24B–C).

Description. Small sized Erigoninae. Carapace unmodified. Chelicerae with 5 promarginal teeth, and 4 retromarginal teeth. Chaetotaxy: tibial spine formula: 1-1-1-1. TmI unknown, TmIV unkown. Abdomen tanned, with dark green patches on the ventral side. Male unknown.

Epigyne: ventral plate round and hunched, with an extension at the posterior end (Fig. 24A); the dorsal plate much shorter than the ventral plate, with curved posterior rim (Fig. 24C). The copulatory ducts long and twisted, and the route difficult to discern (Fig. 24C); no apparent spermathecae present.

Species composition. Type species only: *Conglin personatus* sp. n.

Distribution. China.

***Conglin personatus* sp. n.**

http://zoobank.org/F9275252-06DD-4B13-878E-B9378A0E0301

Figs 24–25

Types. Holotype ♀: CHINA, Yunnan: Mengyang Town: Baihuashan Tunnel: Xishuangbanna nature reserve, 22°09.513'N, 100°53.220'E, elevation ca 894 m, 25.06.2013, tropical seasonal rain forest, sieving.

Etymology. This name is derived from the Latin word 'personatus' which means 'masked', in reference to the mask-shaped epigynal plate; adjective.

Diagnosis. See diagnosis of the genus.

Description. Female (holotype). Total length: 1.30. Carapace 0.60 long, 0.50 wide, greenish yellow. Sternum 0.40 long, 0.30 wide. Clypeus 0.11 high. Eyes sizes and interdistances: AME 0.03, ALE 0.06, PME 0.06, PLE 0.04, AME-AME/AME 0.67, PME-PME/PME 0.67, AME-ALE/ALE 0.33, PME-PLE/PLE 1.17, Coxae IV separated by 1.17 times their width. Lengths of legs: I 2.03 (0.56, 0.15, 0.60, 0.48, 0.24), II 2.11 (0.55, 0.17, 0.54, 0.44, 0.41), III 1.63 (0.40, 0.15, 0.39, 0.35, 0.34), IV 2.22 (0.60, 0.16, 0.56, 0.48, 0.42). Leg formula: IV-II-I-III. Epigyne: see description of the genus.

Male. Unknown.

Distribution. Only known from its type locality.

Genus *Curtimeticus* gen. n.

http://zoobank.org/3222D6B9-5916-4908-9E9C-5D4C2FEBCD40

Type species. *Curtimeticus nebulosus* sp. n.

Etymology. The generic name is an arbitrary combination of letters. Gender is masculine.

Diagnosis. This new genus is diagnosed by its prominent anterior radical process and the stout, short embolus. Its embolic division is similar to those in members of genus *Tmeticus* Menge, 1868, *Donacochara* Simon, 1884. All of them have a simple, straight embolic division with an embolus proper (Millidge 1977: fig. 41), but it differs from the other two by having a bifurcate anterior radical process (Figs 26A, 29A), each branch with a blunt tip (Fig. 26C–D) and an inconspicuous tailpiece. It is also clearly distinguished

by the short palpal tibia with broad distal end and the short palpal patella without ventral teeth (Fig. 27C–E). The epigyne in female resembles that in *Oedothorax* Bertkau, 1883 (Roberts 1987: figs 59b–o), but has longer copulatory ducts; The epigyne of female paratype is also quite similar to those in *Paratmeticus bipunctis* (Bösenberg & Strand, 1906) and *Tmeticus nigriceps* (Kulczyński, 1916) in ventral view (Marusik and Koponen 2010: figs 14, 18), but differs by the route of copulatory ducts (Figs 28C, 29D).

Description. Small sized Erigoninae. Carapace unmodified, reddish brown, with dark radial stripes in both sexes. Chelicerae with 5 promarginal teeth, and 4 retromarginal teeth in both sexes. Chaetotaxy: tibial spine formula: 2-2-1-1. TmI ca 0.50 in male, ca 0.60 in female, TmIV ca 0.70 in male, ca 0.50 in female. Abdomen greenish grey with a pale central patch.

Male palp: tibia with two retrolateral trichobothria and several ventral long setae; tibia with two apophyses, the retrolateral one petal-like (Fig. 26A–B), the inner surface of which covered with inconspicuous papillae (Fig. 27A); protegular process prominent, with pointed tip (Fig. 26B). Radix small slender, with two anterior branches (Fig. 26A, C–D); embolus stout, situated between radical process and protegulum (Fig. 26B); in ventral view the tegular sac partially covering the ventral tip of anterior radical process (Fig. 27B).

Epigyne: ventral plate wide, with copulatory openings at the junction of dorsal plate and ventral plate (Fig. 28C); copulatory ducts straight and long, in the shape of cylinder (Fig. 28C); spermathecae elliptical (Fig. 28C); fertilization ducts short, following an arc route (Figs 28C, 29D).

Species composition. Type species only: *Curtimeticus nebulosus* sp. n.

Distribution. China.

***Curtimeticus nebulosus* sp. n.**

http://zoobank.org/1C18C765-9804-467E-ADE5-EEDF97B54235

Figs 26–29

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 22.07.2007, primary tropical seasonal rain forest, fogging. Paratypes 1♀, same data as holotype; 1♀, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 5.–12.01.2007, primary tropical seasonal rain forest, hand-collecting; 1♀, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 19.–25.02.2007, primary tropical seasonal rain forest, hand-collecting; 1♀, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 4.–11.04.2007, primary tropical seasonal rain forest, hand-collecting; 1♂, 21°54.646'N, 101°16.257'E, elevation ca 572 m, 4.–11.05.2007, rubber-tea plantation, hand-collecting; 1♂, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 10.–20.07.2007, primary tropical seasonal rain forest, fogging.

Etymology. The name for this species comes from the Latin word 'nebulosus', which means 'cloudy, foggy', in reference to the tegular sac covering the tip of the ventral radical process; adjective.

Diagnosis. See diagnosis of the genus.

Description. Male (holotype). Total length: 1.70. Carapace 0.76 long, 0.53 wide, dark red. Sternum 0.40 long, 0.40 wide. Clypeus 0.13 high. Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.06, PLE 0.05, AME-AME/AME 0.33, PME-PME/PME 0.66, AME-ALE/ALE 0.50, PME-PLE/PLE 1.00, coxae IV separated by 0.75 time their width. Length of legs: I 2.73 (0.76, 0.20, 0.75, 0.63, 0.39), II 2.51 (0.72, 0.20, 0.65, 0.57, 0.37), III 2.07 (0.56, 0.20, 0.48, 0.48, 0.35), IV 2.69 (0.74, 0.20, 0.70, 0.69, 0.36). Leg formula: I-IV-II-III. Abdomen greenish grey. Palp: see description of the genus.

Female (one of paratypes). Total length: 1.69. Carapace 0.73 long, 0.55 wide, dark red. Sternum 0.70 long, 0.55 wide. Clypeus 0.09 high. Eyes sizes and interdistances: AME 0.07, ALE 0.05, PME 0.05, PLE 0.06, AME-AME/AME 0.29, PME-PME/PME 1.00, AME-ALE/ALE 0.20, PME-PLE/PLE 0.50, coxae IV separated by 0.93 time their width. Length of legs: I 2.65 (0.76, 0.20, 0.70, 0.60, 0.39), II 2.51 (0.72, 0.20, 0.65, 0.57, 0.37), III 2.07 (0.56, 0.20, 0.48, 0.48, 0.35), IV 2.69 (0.74, 0.20, 0.70, 0.69, 0.36). Leg formula: IV-I-II-III. Abdomen greenish grey, with a pale patch in the middle of dorsum. Epigyne: see description of the genus.

Distribution. Known only from type localities.

Genus *Dactylopisthes* Simon, 1884

Dactylopisthes: Simon 1884: 594. Type species: *Erigone digiticeps* Simon, 1884.

Dactylopisthes separatus sp. n.

http://zoobank.org/669B3DD3-5B63-4F95-863D-8FBC59F7EE6C

Figs 30–31

Types. Holotype ♀: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°55.551'N, 101°16.923'E, elevation ca 561 m, 16.–28.02.2007, rubber-tea plantation, trunk traps. Paratypes 1♀, 21°54.213'N, 101°16.927'E, elevation ca 590 m, 24.11.2006, G 213 road, arbor plantation, fogging; 1♀, 21°55.551'N, 101°16.923'E, elevation ca 585 m, 19.–25.01.2007, rubber tree plantation, hand-collecting; 1♀, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 1.–15.02.2007, rubber-tea plantation, trunk traps; 1♀, 21°54.646'N, 101°16.257'E, elevation ca 572 m, 1.–15.02.2007, rubber-tea plantation, trunk traps; 1♀, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 16.–28.02.2007, rubber tree plantation, trunk traps; 1♀, 21°54.498'N, 101°16.326'E, elevation ca 586 m, 4.–11.05.2007, rubber tree plantation, hand-collecting; 1♀, 21°54.710'N, 101°16.941'E, elevation ca 652 m, 15.11.2009, Lvshilin, tropical seasonal rain forest; 1♀, 21°56.206'N, 101°16.204'E, elevation ca 558 m, 1.12.2009, tropical evergreen rain forest.

Etymology. The name for this species is derived from the Latin word 'separatus', which means 'unconnected', referring to the separated ventral plate of the epigyne; adjective.

Diagnosis. This species is similar to *D. locketi* (Tanasevitch, 1983) in the general shape of epigyne (Tanasevitch 1989: fig. 127), but different in the detailed structure: the spermathecae in *D. separatus* sp. n. are more separated than those in *D. locketi* (Fig. 30B), and situated closer to the posterior rim of the epigyne; the two pieces of separated ventral plate are narrower and more pointed (Fig. 30A).

Description. Female (holotype). Total length: 1.60. Carapace 0.69 long, 0.55 wide, yellow, with dark margin. Sternum 0.36 long, 0.41 wide. Clypeus 0.14 high. Chelicerae promargin with 4 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.06, PLE 0.06, AME-AME/AME 0.20, PME-PME/PME 0.67, AME-ALE/ALE 0.13, PME-PLE/PLE 0.17, coxae IV separated by 1.92 times their width. Length of legs: I 2.11 (0.61, 0.20, 0.50, 0.45, 0.35), II 2.22 (0.62, 0.19, 0.55, 0.53, 0.33), III 1.76 (0.48, 0.18, 0.40, 0.42, 0.28), IV 2.24 (0.63, 0.19, 0.50, 0.55, 0.37). Leg formula: IV-II-I-III. TmI 0.69, TmIV 0.65. Tibial spine formula: 2-2-1-1. Abdomen pale, with a greenish grey horseshoe band on dorsum, and a small dark patch at the posterior end. Epigyne: ventral plate subdivided, with two rounded ends (Figs 30A, 31A); dorsal plate tongue-shaped (Fig. 30B); copulatory openings near the posterior margin of ventral plate (Fig. 30C); copulatory ducts short and straight; spermathecae somewhat elliptical, separated by two diameters (Fig. 30C).

Male. Unknown.

Remarks. The diagnosis of this species is solely based on the female specimens and the genera within or related to the *Savignia* group share very similar epigynal structure, which makes it rather difficult to place species in correct genus by comparing epigynes only. The value of TmI of this species and the pattern on its abdomen's dorsum seem to be different from other existing congeners in *Dactylopisthes*, but it could be tentatively placed in this genus because of its resemblance to *D. locketi*. A more reasonable diagnosis will be made when the male specimens are collected and studied.

Genus *Erigone* Audouin, 1826

Erigone: Audouin 1826: 320. Type species *Linyphia longipalpis* Sundevall, 1830.

Erigone grandidens Tu & Li, 2004

Erigone grandidens: Tu and Li 2004: 420, fig. 2A–J (♂♀).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.459'N, 101°16.755'E, elevation ca 644 m, 20.11.2009, secondary forest; 1♂, 21°53.794'N, 101°17.152'E, elevation ca 594 m, 27.11.2009, low evergreen forest.

Distribution. China, Vietnam.

Genus *Gladiata* gen. n.
http://zoobank.org/3C41D5A8-393F-4417-BB08-2A4E13D6B7D2

Type species. *Gladiata fengli* sp. n.

Etymology. The generic name is an arbitrary combination of letters. Gender is feminine.

Diagnosis. The number of spines on tibia IV and the conformation of male palp implies that this genus should belong to subfamily Erigoninae, and the conspicuously large proximal cymbial projection resembles that in erigonine genera *Minicia* Thorell, 1875, *Eskovia* Marusik & Saaristo, 1999, *Sintula* Simon, 1884. The embolus in this new genus takes an anti-clockwise route to form a loop, in contrast with the distal suprategular apophysis turning clockwise (Fig. 33B), which is rare in other erigonines. The atrium in female's epigyne resembles that in the genus *Ketambea* Millidge & Russell-Smith, 1992, *Tapinocyba* Simon, 1884, but the copulatory ducts follow a different route.

Description. Median sized Erigoninae. Male with post-ocular area slightly elevated, with a row of setae along the axis from clypeus to the fovea (Fig. 33E). Chelicerae with 5 promarginal teeth, and 4 retromarginal teeth. Abdomen with distinct pattern. Chaetotaxy: tibial spine formula: 2-2-1-1. TmI ca 0.37, TmIV ca 0.65.

Male palp: tibia with 4 trichobothria, 2 retrolateral and two dorsal, tibia dorsally humped, equipped by a row of long setae (Fig. 32A–B); cymbium with a prominent, pointed projection (Fig. 32A–B); paracymbium 'J'-shaped, basally broad, with an extended distal end (Fig. 32B); distal suprategular apophysis basally broad, stretching along the tegulum then turning up to form a spine (Fig. 32B); radix straight, reduced (Fig. 32A); no obvious tailpiece present; embolus long, thread-like, starting from the prolateral side of the radix (Fig. 32A).

Epigyne: ventral plate bulge, dorsal plate tongue-shaped, with an obvious atrium lying in between (Fig. 34A); copulatory ducts long, twisted (Fig. 34C); spermathecae small (Fig. 34C).

Species composition. Type species only: *Gladiata fengli* sp. n.

Distribution. China.

***Gladiata fengli* sp. n.**
http://zoobank.org/BDA90FB1-5390-4C60-8391-B1A1527BA4AA
Figs 32–35

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 1.–15.05.2007, primary tropical seasonal rain forest, trunk traps. Paratypes 1♀, 21°57.883'N, 101°12.147'E, elevation ca 839 m, 15.08.2011, primary tropical seasonal rain forest, fogging; 1♂, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 16.–31.03.2007, primary tropical seasonal rain forest, trunk traps; 1♂, 21°57.445'N, 101°12.997'E, elevation ca 744 m,

16.–30.04.2007, primary tropical seasonal rain forest, trunk traps; 1♂, Xishuangbanna Tropical Botanical Garden, 21°53.993'N, 101°16.810'E, elevation ca 611 m, 19.08.2007, *Anogeissus acuminate* plantation, fogging.

Etymology. This specific name is derived from the Chinese Pinyin 'fēng lì', meaning 'pointed, sharp', in reference to the pointed proximal cymbial outgrowth of the male palp; term in apposition.

Diagnosis. See diagnosis of the genus.

Description. Male (holotype). Total length: 2.78. Carapace 1.16 long, 0.78 wide, post-ocular area slightly elevated, with a row of setae growing along the axis from clypeus to the fovea. Sternum 0.63 long, 0.58 wide. Clypeus 0.19 high. Eye sizes and interdistances: AME 0.07, ALE 0.11, PME 0.10, PLE 0.10, AME-AME/AME 0.43, PME-PME/PME 0.80, AME-ALE/ALE 0.36, PME-PLE/PLE 0.40, coxae IV separated by 0.95 time their width. Length of legs: I 3.71 (1.15, 0.25, 0.94, 0.78, 0.59), II 4.97 (1.40, 0.29, 1.25, 1.30, 0.73), III 3.95 (1.13, 0.28, 0.98, 1.00, 0.56), IV 4.99 (1.40, 0.28, 1.33, 1.33, 0.65). Leg formula: IV-II-III-I. TmI 0.37, TmIV 0.65. Abdomen pale, with irregular dark dots. Palp: see description of the genus.

Female (one of paratypes). Total length: 2.56. Carapace 1.00 long, 0.75 wide, dark brown. Sternum 0.60 long, 0.54 wide. Clypeus 0.20 high. Eyes sizes and interdistances: AME 0.08, ALE 0.10, PME 0.09, PLE 0.10, AME-AME/AME 0.38, PME-PME/PME 0.53, AME-ALE/ALE 0.16, PME-PLE/PLE 0.40, coxae IV separated by 1.13 times their width. Lengths of legs: I 4.98 (1.40, 0.31, 1.38, 1.18, 0.71), II 4.60 (1.30, 0.32, 1.24, 1.10, 0.64), III 3.54 (1.04, 0.20, 0.90, 0.90, 0.50), IV 4.60 (1.31, 0.31, 1.22, 1.13, 0.63). Leg formula: I-IV-II-III. TmI 0.35, TmIV 0.60. Abdomen beige, with dark green venter and symmertric patches on the dorsum. Epigyne: see description of the genus.

Distribution. Known only from type localities.

Genus *Glebala* gen. n.

http://zoobank.org/74F7D9AA-7F2A-44F4-8FF8-4D3413B352FD

Type species. *Glebala aspera* sp. n.

Etymology. The generic name is an arbitrary combination of letters. Gender is feminine.

Diagnosis. This genus is unique for its knobble paracymbium (Fig. 36B), which is not known in any other linyphiid genera. The bulb is distinguished by the ambiguous delimitation of the tegulum and subtegulum (Fig. 36A).

Description. Median sized Erigoninae. Male carapace slightly elevated, with a row of long hair growing along the axis. Chelicerae with 6 promarginal teeth, and 5 retromarginal teeth. Chaetotaxy: tibial spine formula: 2-2-1-1. TmI ca 0.32, TmIV ca 0.72. Abdomen with distinct pattern. Female unknown.

Male palp: tibia with two retrolateral trichobothria, with a row of setae dorsally. Cymbium hoof-like (Fig. 36A–B). Paracymbium with rough surface, strongly reduced

(Fig. 36B). The bulb simple. Distal suprategular apophysis with two branches, one broad at tip, another long and curved, with bifid tip and two small processes at the mid-part (Fig. 36A–D). Radical apophysis spear-like (Fig. 36B). The embolus long, membraneous, stretching distally, with a slightly-bent, blunt-ended tip (Fig. 36A–B).

Species composition. Only the type species *Glebala aspera* sp. n.

Distribution. China.

***Glebala aspera* sp. n.**

http://zoobank.org/396C198F-10CC-468D-96E1-C695A3A73C68

Figs 36–38

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.669'N, 101°11.893'E, elevation ca 790 m, 16.–30.04.2007, primary tropical seasonal rain forest, hand-collecting.

Etymology. The specific name is derived from the Latin word 'asper', meaning 'rough', in reference to the rough surface of the paracymbium; adjective.

Diagnosis. See diagnosis of the genus. Abdominal pattern of this species is notably similar to that in *Gladiata fengli* sp. n.

Description. Male (holotype). Total length: 2.64. Carapace 1.38 long, 0.90 wide, brown, with long setae growing from ocular area to the fovea (Fig. 37E). Sternum 0.55 long, 0.65 wide. Clypeus 0.24 high. Eye sizes and interdistances: AME 0.08, ALE 0.11, PME 0.10, PLE 0.12, AME-AME/AME 0.38, PME-PME/PME 0.80, AME-ALE/ALE 0.36, PME-PLE/PLE 0.42, Coxae IV separated by 1.41 times their width. Lengths of legs: I 5.62 (1.56, 0.31, 1.50, 1.41, 0.84), II 5.31 (1.48, 0.35, 1.38, 1.35, 0.75), III 4.18 (1.25, 0.28, 1.00, 1.10, 0.55), IV 5.19 (1.44, 0.28, 1.40, 1.38, 0.69). Leg formula: I-II-IV-III. Abdomen, pale, with dark ventrum, three pairs of lateral stripes and dorsal dark green folium. Palp: see description of the genus.

Female. Unknown.

Distribution. Known only from type locality.

Genus *Glomerosus* gen. n.

http://zoobank.org/DC3B6190-92E9-400B-AF3B-C6889C084A7C

Type species. *Glomerosus lateralis* sp. n.

Etymology. The generic name is an arbitrary combination of letters. Gender is masculine.

Diagnosis. The genus is diagnosed by the unique palp: tibia without any apophysis (Figs 39A–B, 40A–B); bulb is globe-like (Fig. 39B); paracymbium slender, 'J'-shaped, the base of which is closely attached to cymbium (Fig. 39B); the embolus is similar to that in genus *Plectembolus* Millidge & Russell-Smith, 1992 and *Plicatiductus* Millidge & Russell-Smith 1992 known from Southeast Asia, but *Glomerosus* gen. n. has fewer

coils and a whip-like, loose tip (Fig. 39D). The embolic division has a less sclerotised terminal apophysis, which is small with an attenuated tip (Fig. 39A).

Description. Body elongate. Male carapace long and narrow (Fig. 40C–E), unmodified. Chelicerae with 2 promarginal teeth, and 1 retromarginal teeth. Legs long and slender. Chaetotaxy: tibial spine formula: 2-2-2-2. TmI ca 0.17, TmIV absent. Female unknown. Abdomen with dark green markings against yellow background on dorsum, venter grayish green.

Male palp: tibia unmodified, with one retrolateral trichobothrium and one dorsal trichobothrium; paracymbium 'J'-shaped, with a curved apex (Fig. 39B); median membrane small piece, with fringed rim (Figs 39D, 40B); radical apophysis short, erect (Fig. 40B); radix slender and curved (Fig. 41C); embolus long, whip-like, coiled at the prolateral side of bulb (Fig. 39A, C).

Species composition. Only the type species *Glomerosus lateralis* sp. n.

Distribution. China.

Glomerosus lateralis sp. n.

http://zoobank.org/6DD3655D-4D69-4E32-99E4-6F394816705C

Figs 39–41

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 10.–20.07.2007, primary tropical seasonal rain forest, hand-collecting.

Etymology. The species name is taken from the Latin word 'lateralis', meaning 'of the side, lateral', in reference to the position of the coiled embolus; adjective.

Diagnosis. See diagnosis of the genus.

Description. Male (holotype). Total length: 2.23. Carapace 1.13 long, 0.67 wide, reddish brown. Sternum 0.47 long, 0.39 wide. Clypeus 0.20 high. Eye sizes and interdistances: AME 0.06, ALE 0.09, PME 0.08, PLE 0.08, AME-AME/AME 0.17, PME-PME/PME 0.38, AME-ALE/ALE 0.11, PME-PLE/PLE 0.50, coxae IV separated by 0.86 time their width. Length of legs: I 4.97 (1.30, 0.25, 1.36, 1.28, 0.78), II 4.45 (1.17, 0.25, 1.16, 1.09, 0.70), III 2.63 (0.75, 0.20, 0.65, 0.60, 0.45), IV 3.35 (0.88, 0.19, 0.88, 0.85, 0.55). Leg formula: I-II-IV-III. Abdomen yellow, with about four pairs of dark green markings of different sizes on the dorsum, a small patch of the same color at the posterior tip of abdomen. Palp: see description of the genus.

Female. Unknown.

Distribution. Known only from type locality.

Genus *Gongylidiellum* Simon, 1884

Gongylidiellum: Simon 1884: 605. Type species: *Neriene latebricola* O. P.-Cambridge, 1871.

***Gongylidiellum bracteatum* sp. n.**
http://zoobank.org/7B82A84F-50A2-44D8-87DB-3DC4ACBEBF45
Figs 42–43

Types. Holotype ♀: CHINA, Yunnan: Menghai County: Manguan Village: Xishuangbanna nature reserve, 22°01.772'N, 100°23.711'E, elevation ca 1187 m, 1.07.2013, secondary forest, hand-collecting.

Etymology. This name comes from the Latin word 'bracteatus', which means 'covered by scale, small plate', in reference to the scale-shaped structure on the ventral plate; adjective.

Diagnosis. It is similar to *G. latebricola* (O. P.-Cambridge, 1871) by the shape of epigyne and the conformation of vulva (Roberts 1987: 80, fig. 34c; Tanasevitch 1990: 111, fig. 24.40); its ventral plate is equipped with a pair of small membraneous extensions (Fig. 42A), which couldn't be seen in *G. latebricola*.

Description. Female (holotype). Total length: 1.48. Carapace 0.70 long, 0.56 wide, light yellow. Sternum 0.31 long, 0.39 wide. Clypeus 0.13 high. Chelicerae promargin with 3 teeth, retromargin with 2 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.05, PLE 0.06, AME-AME/AME 0.75, PME-PME/PME 1.00, AME-ALE/ALE 0.17, PME-PLE/PLE 0.33, coxae IV separated by 1.64 times their width. Length of legs: I 2.13 (0.61, 0.20, 0.53, 0.48, 0.31), II 2.26 (0.64, 0.19, 0.56, 0.53, 0.34), III 1.65 (0.45, 0.17, 0.36, 0.41, 0.26), IV 2.16 (0.64, 0.17, 0.50, 0.54, 0.31). Leg formula: II-IV-I-III. TmI 0.65, TmIV 0.63. Tibial spine formula: 1-1-1-1. Abdomen pale, with a black posterior tip. Epigyne: ventral plate half rounded (Figs 42A, 43A); dorsal plate with a curved posterior margin; copulatory ducts make two turnings before joining the spermathecae (Fig. 42C); spermathecae rounded, separated by 1.5 their diameter (Fig. 42C); fertilization ducts long, following a 'C'-shaped route (Fig. 43B).

Male. Unknown.

Distribution. Known only from type locality.

Genus *Houshenzinus* Tanasevitch, 2006

Houshenzinus: Tanasevitch 2006b: 292. Type species *Houshenzinus rimosus* Tanasevitch, 2006 from China.

***Houshenzinus xiaolongha* sp. n.**
http://zoobank.org/F6411604-37DC-417D-86C5-C5F9CE2550CD
Figs 44–46

Types. Holotype ♂, CHINA, Yunnan: Mengla County: Xishuangbanna Nature Reserve, Xiaolongha biodiversity preservation corridor, 21°24.265'N, 101°37.296'E,

elevation ca 653 m, 27.06.2012, valley evergreen rain forest, sieving. Paratypes 1♂2♀, same data as holotype.

Etymology. This species's name is derived from the Chinese Pinyin 'xiǎo lóng hā', which is the type locality of this species; term in apposition.

Diagnosis. This species is distinguished by the shape of convector in male (Fig. 45B; Tanasevitch 2006b: figs 45–46) and the loops of copulatory ducts in female's epigyne (Fig. 46C; Song and Li 2008: fig. 287), but differs from the type species by the inconspicuous dorsal tibial apophysis (Fig. 45A) and ridges on convector in male's palp (Fig. 44A–B), and three more loops than the copulatory ducts make in female's epigyne.

Description. Male (holotype). Total length: 1.40. Carapace 0.63 long, 0.58 wide, yellow. Sternum 0.39 long, 0.56 wide. Clypeus 0.17 high. Chelicerae promargin with 3 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.08, PLE 0.08, AME-AME/AME 0.56, PME-PME/PME 0.60, AME-ALE/ALE 0.33, PME-PLE/PLE 0.50, coxae IV separated by 2.00 times their width. Length of legs: I 2.34 (0.63, 0.22, 0.58, 0.50, 0.41), II 2.33 (0.63, 0.20, 0.58, 0.53, 0.39), III 1.81 (0.50, 0.19, 0.39, 0.42, 0.31), IV 2.69 (0.63, 0.19, 0.53, 0.54, 0.35). Leg formula: I-II-IV-III. Tm I 0.63, Tm IV 0.59. Tibial spine formula: 2-2-1-1. Abdomen pale, with a black posterior end. Palp: tibia equipped with two retrolateral trichobothria, one dorsal trichobothrium, and a small dorsal apophysis (Fig. 45A). Paracymbium 'J'-shaped, with a bifurcate tip (Fig. 44B). Tailpiece tongue-shaped when viewed dorsally (Fig. 44D). Convector prominent, comma-shaped, covering most part of the embolic division (Fig. 45B). Embolus thread-like, coiled, stretching along the outer margin of distal suprategular apophysis (Fig. 44B).

Female (one of paratypes). Total length: 1.60. Carapace 0.60 long, 0.56 wide, unmodified, same as male in coloration. Sternum 0.32 long, 0.40 wide. Clypeus 0.16 high. Chelicerae promargin with 6 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.05, ALE 0.08, PME 0.06, PLE 0.07, AME-AME/AME 0.63, PME-PME/PME 0.52, AME-ALE/ALE 0.23, PME-PLE/PLE 0.38, coxae IV separated by 2.00 times their width. Length of legs: I 2.32 (0.63, 0.20, 0.58, 0.50, 0.41), II 2.34 (0.64, 0.20, 0.57, 0.55, 0.38), III 1.80 (0.50, 0.18, 0.38, 0.43, 0.31), IV 2.36 (0.63, 0.23, 0.61, 0.55, 0.33). Leg formula: IV-II-I-III. Tm I 0.71, Tm IV 0.68. Tibial spine formula: 2-2-1-1. Abdomen light pink, with a black tip. Epigyne: ventral plate semi-transparent, mesally concave at the posterior rim (Fig. 46A); copulatory ducts long, forming about five loops before joining spermathecae (Fig. 46C); spermathecae oval, separated by 1.5 times their diameter (Fig. 46B).

Distribution. Known only from type locality.

Genus *Hylyphantes* Simon, 1884

Hylyphantes: Simon 1884: 464. Type species *Erigone nigrita* Simon, 1881.

Hylyphantes graminicola (Sundevall, 1830)

Linyphia graminicola: Sundevall 1830: 26 (♂♀).
Hylyphantes graminicola: Roberts 1987: 42, fig. 12b (♂♀).

Material examined. 1♂, CHINA, Yunnan: Mengla County: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.565'N, 101°16.021'E, elevation ca 584 m, 21.VIII.2011, fogging.

Distribution. Palearctic and SE Asia.

Genus *Kaestneria* Wiehle, 1956

Kaestneria: Wiehle 1956: 272. Type species *Linyphia dorsalis* Wider, 1834.

Kaestneria bicultrata Chen & Yin, 2000

Figs 47–49

Kaestneria bicultrata: Chen and Yin 2000: 88, figs 17–20 (♀).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°54.718'N, 101°16.940'E, elevation ca 645 m, 5.–12.01.2007, secondary tropical seasonal rain forest, hand-collecting; 1♂, 21°54.646'N, 101°16.257'E, elevation ca 572 m, 5.–12.02.2007, rubber-tea plantation, hand-collecting; 1♂, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 19.–25.02.2007, rubber-tea plantation, hand-collecting; 1♂1♀, 21°54.646'N, 101°16.257'E, elevation ca 572 m, 19.–26.05.2007, rubber-tea plantation, hand-collecting.

Diagnosis. The female is easily recognized by the copulatory duct route and the finger-like spines on each side of the ventral plate (Chen and Yin 2000: figs 18–19). The male is similar to *K. pullata* O. P.-Cambridge, 1863 (Roberts 1987: fig. 71b) and *K. minima* Locket, 1982, but differs by the shape of paracymbium and embolic division (Fig. 47B, D). Both male and female differ from other congeners by having pattern on carapace and abdomen.

Description. Female. Well described, e.g. by Chen and Yin (2000).

Male (one of males from Xishuangbanna). Total length: 1.78. Carapace 0.94 long, 0.64 wide, brown, with a pale stripe along the axis. Sternum 0.50 long, 0.45 wide. Clypeus 0.15 high. Chelicerae promargin with no teeth, retromargin with 1 tooth. Eye sizes and interdistances: AME 0.05, ALE 0.08, PME 0.07, PLE 0.06, AME-AME/AME 0.60, PME-PME/PME 0.43, AME-ALE/ALE 0.63, PME-PLE/PLE 0.67, coxae IV separated by 0.60 time their width. Lengths of legs: I 5.00 (1.30, 0.24, 1.28, 1.38, 0.80), II 3.14 (1.13, 0.20, 1.04, 1.13, 0.64), III 2.63 (0.76, 0.18, 0.56,

0.70, 0.43), IV 3.73 (1.10, 0.19, 0.88, 1.03, 0.53). Leg formula: I-IV-II-III. TmI 0.15, TmIV absent. Tibial spine formula: 2-2-2-2. Abdomen greenish brown, with white patches, same as the pattern in female holotype (Chen and Yin 2000: fig. 17). Palp: tibia small, with one long, thick dorsal setae (Figs 47B, 48A–B); paracymbium 'V'-shaped, basally somewhat rectangular, with a broad semi-circular tip (Fig. 47B); distal suprategular apophysis long, with a bifid apex, each embranchment blunt-ended, with rough surface (Figs 47B, 49B); lamella long and erect, terminating in a finger-like end (Fig. 47C–D); median membrane long, broad, abruptly produced into a hooked tip (Fig. 47D); embolus simple, ribbon-like with a pointed tip (Fig. 47D).

Distribution. China.

Remarks. Male of the species is reported for the first time.

Genus *Laogone* Tanasevitch, 2014

Laogone: Tanasevitch 2014b: 76. Type species *Laogone cephala* Tanasevitch, 2014 from Laos.

Laogone bai sp. n.

http://zoobank.org/188350EA-3A2B-44E6-A0DC-C6B0C6C3ACA5

Figs 50–51

Types. Holotype ♂, CHINA, Yunnan: Meng'a Town: Wengnan village: Xishuangbanna Nature Reserve, 22°05.002'N, 100°22.009'E, elevation ca 1118 m, 30.07.2007, secondary seasonal rain forest, fogging.

Etymology. This species's name is derived from the Chinese Pinyin 'bái', meaning 'white', which refers to the color of the holotype's body; term in apposition.

Diagnosis. This species is similar to the type species *L. cephala*, but differs by the long and pointed dorsal tibial process, and the slimmer membrosclerum.

Description. Male (holotype). Total length: 1.75. Carapace 0.75 long, 0.63 wide, pale, elevated into a lobe carrying posterior eyes. Sternum 0.44 long, 0.44 wide. Clypeus 0.16 high. Chelicerae promargin with 4 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.05, PLE 0.06, AME-AME/AME 0.40, PME-PME/PME 1.23, AME-ALE/ALE 0.38, PME-PLE/PLE 1.02, coxae IV separated by 1.58 times their width. Length of legs: I 3.34 (0.81, 0.25, 0.94, 0.86, 0.48), II 3.40 (0.88, 0.20, 0.90, 0.86, 0.56), III 2.50 (0.70, 0.25, 0.50, 0.66, 0.39), IV 3.05 (0.80, 0.20, 0.80, 0.80, 0.45). Leg formula: II-I-IV-III. Tm I 0.80, Tm IV 0.79. Tibial spine formula: 2-2-1-1. Abdomen pale, with a black tip near spinnerets. Palp: retrolateral tibial apophysis lobe-like, with a row of spines along the margin (Fig. 50B,), dorsal tibial apophysis long, '7'-shaped, with a pointed tip (Fig. 51A). Paracymbium with a process (Fig. 50A). Convector present. Membrosclerum 'C' -shaped in ventral view (Fig. 51B), slim and attenuated at distal end; median membrane long and

narrow, stretching along the proximal part of embolic division (Fig. 50A–B). Embolus whip-like, forming two loops (Fig. 51B).

Female. Unknown.

Distribution. Known only from type locality.

***Laogone lunata* sp. n.**

http://zoobank.org/2364FCE7-0ED6-416E-81E3-6E59CF3ABFEC

Figs 52–55

Types. Holotype ♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 30.07.2007, primary tropical seasonal rain forest, fogging. Paratypes 8♂18♀, same data as holotype; 1♂3♀, 21°54.607'N, 101°17.005'E, elevation ca 633 m, 5.–12.03.2007, secondary tropical seasonal moist forest, hand-collecting; 6♂4♀, 21°54.607'N, 101°17.005'E, elevation ca 633 m, 28.07.2007, secondary tropical seasonal moist forest, fogging; 23♂24♀, 21°57.669'N, 101°11.893'E, elevation ca 790 m, 7.08.2007, primary tropical seasonal rain forest, fogging; 3♂1♀, 21°54.984'N, 101°16.982'E, elevation ca 656 m, 10.08.2007, secondary tropical seasonal moist forest, fogging; 1♂8♀, 21°54.705'N, 101°16.898'E, elevation ca 664 m, 15.11.2009, Lvshilin tropical rain forest, fogging; 31♂29♀, 21°54.609'N, 101°17.090'E, elevation ca 643 m, 17.11.2009, Lvshilin tropical rain forest, fogging; 10♂35♀, 21°54.600'N, 101°17.084'E, elevation ca 640 m, 17.11.2009, Lvshilin tropical rain forest, fogging.

Etymology. The name comes from the Latin word 'lunatus', meaning 'shaped like a crescent moon', which refers to the shape of the cymbium in lateral view; adjective.

Diagnosis. This species is similar to the type species *L. cephala* (Tanasevitch 2014b: figs 28, 30–32; Fig. 52B), but differs by the short dorsal tibial apophysis, and the shape of membrosclerum.

Description. Male (holotype). Total length: 1.90. Carapace 0.77 long, 0.56 wide, yellow, faded at the outer margin. Sternum 0.38 long, 0.44 wide. Clypeus 0.08 high. Chelicerae promargin with 4 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.10, PME 0.09, PLE 0.08, AME-AME/AME 0.39, PME-PME/PME 1.25, AME-ALE/ALE 0.40, PME-PLE/PLE 1.04, coxae IV separated by 1.67 times their width. Length of legs: I 2.76 (0.67, 0.23, 0.70, 0.69, 0.47), II 2.79 (0.70, 0.23, 0.70, 0.69, 0.47), III 2.13 (0.55, 0.22, 0.47, 0.55, 0.34), IV 2.69 (0.78, 0.20, 0.63, 0.69, 0.39). Leg formula: II-I-IV-III. Tm I 0.79, Tm IV 0.73. Patellar spine formula: 2-2-2-2. Abdomen pale, with a black tip near spinnerets. Palp: patella elongate; tibia with two retrolateral and one dorsal trichobothria. Retroventral and retrodorsal apophyses both short and broad (Figs 52B, 53A). Cymbium crescent-moon shaped in lateral view (Fig. 52A–B). Paracymbium mostly concealed under bulb (Figs 52B, 53B), with one small pointed tip (Figs 52B, 53B). Convector flat, round in ventral view. Membrosclerum comma-shaped from ventral view (Fig. 53B); tail-

piece small, tongue-shaped when viewed prolaterally (Fig. 52B); median membrane ribbon-like, with a tapering tip (Figs 52B, 53B). Loose part of embolus thread-like, forming one big loop, the enveloped part of embolus in convector forming small loop (Fig. 53B).

Female (one of paratypes). Total length: 1.97. Carapace 0.78 long, 0.59 wide, unmodified, same as male in coloration. Sternum 0.41 long, 0.44 wide. Clypeus 0.14 high. Chelicerae promargin with 5 teeth, retromargin with 5 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.09, PME 0.08, PLE 0.08, AME-AME/AME 0.25, PME-PME/PME 0.50, AME-ALE/ALE 0.22, PME-PLE/PLE 0.38, coxae IV separated by 1.46 times their width. Length of legs: I 2.54 (0.70, 0.23, 0.63, 0.59, 0.39), II 2.54 (0.70, 0.23, 0.63, 0.59, 0.39), III 2.02 (0.55, 0.22, 0.47, 0.47, 0.31), IV 2.42 (0.63, 0.23, 0.61, 0.56, 0.39). Leg formula: II-I-IV-III. Tm I 0.76, Tm IV 0.89. Patellar spine formula: 2-2-2-2. Abdomen light pink, with a black tip. Epigyne: ventral plate semi-transparent, equipped with long veins forming two loops on it (Figs 54A, 55C); dorsal plate large, heart-shaped (Figs 54B–C, 55D); copulatory ducts heading towards laterally then turning up and joining the spermathecae (Figs 54C, 55D); spermathecae somewhat oval (Fig. 54B).

Distribution. Known only from type locality.

Genus *Maro* O. P.-Cambridge, 1906

Maro: O. P.-Cambridge 1906: 77. Type species *Maro minutus* O. P.-Cambridge, 1906.

Maro bulbosus sp. n.

http://zoobank.org/F475F573-ECFF-4092-9CEF-1A040EEE6803
Figs 56–57

Types. Holotype ♀: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 1.–15.06.2007, primary tropical seasonal rain forest. Paratypes 2♀, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 1.–15.06.2007 primary tropical seasonal rain forest; 21°55.428'N, 101°16.441'E, elevation ca 598 m, 16.–31.07.2007, secondary tropical seasonal rain forest; 1♀, 21°54.646'N, 101°16.257'E, ca 572 m, 1.–9.12.2006, rubber-tea plantation.

Etymology. The species' name is derived from the Latin word 'bulbosus', meaning 'bulb-like', referring to the hemisphere-shaped epigyne; adjective.

Diagnosis. This species resembles *M. flavescens* (O. P.-Cambridge, 1873) by the conformation of ventral plate, but differs in these aspects: the posterior median plate is elliptical in *M. bulbosus* sp. n. (Fig. 56B), whereas it is tongue-shaped in *M. flavescens* (Tanasevitch 2006a: figs 35–36); spermathecae of *M. bulbosus* sp. n. are close to each other and have multi-chambered spermathecae (Figs 56B, 57B), while big, round ones in *M. flavescens*.

Description. Female (holotype). Total length: 1.17. Carapace 0.50 long, 0.43 wide, yellow. Sternum 0.30 long, 0.30 wide. Clypeus 0.10 high. Chelicerae promargin with 3 teeth, retromargin with 2 teeth. Eye sizes and interdistances: AME 0.03, ALE 0.06, PME 0.05, PLE 0.05, AME-AME/AME 0.33, PME-PME/PME 0.60, AME-ALE/ALE 0.50, PME-PLE/PLE 0.80, coxae IV separated by 0.92 time their width. Length of legs: I 1.72 (0.44, 0.15, 0.45, 0.38, 0.30), II 1.57 (0.34, 0.16, 0.41, 0.37, 0.29), III 1.41 (0.36, 0.16, 0.32, 0.31, 0.26), IV 1.78 (0.48, 0.14, 0.46, 0.40, 0.30). Leg formula: IV-I-II-III. TmI 0.34, TmIV absent. Tibial spine formula: 2-2-1-1. Abdomen with yellow dorsum and brown venter. Epigyne: semi-transparent, with part of spermathecae and copulatory ducts visible, posterior margin convax with a long, folded stretcher (Fig. 56B); posterior median plate, small, oval (Fig. 56B); copulatory ducts long, forming a semi-loop structure before connecting with spermathecae.

Male. Unknown.

Distribution. Known only from type localities.

Genus *Nasoona* Locket, 1982

Nasoona: Locket 1982: 366. Type species *Nasoona prominula* Locket, 1982 from Malaysia.

Nasoona asocialis (Wunderlich, 1974)

Oedothorax asocialis: Wunderlich 1974: 172, figs 6–7 (♀).
Nasoona asocialis: Tanasevitch 2014b: 78, figs 33–38, 44–50 (♂♀).

Material examined. 2♂4♀, CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 22.07.2007, primary tropical seasonal rain forest, fogging; 3♀, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 19.–25.02.2007, Primary tropical seasonal rain forest, hand-collecting; 1♀, 21°54.200'N, 101°16.923'E, elevation ca 608 m, 10.–20.06.2007, *Paramichelia baillonii* Plantation, hand-collecting; 3♂8♀, 21°55.139'N, 101°16.295'E, elevation ca 523 m, 30.11.2009, tropical evergreen rain forest, fogging.

Distribution. China, Laos, Nepal.

Nasoona crucifera (Thorell, 1895)

Erigone crucifera: Thorell 1895: 110 (♀).
Nasoona crucifera: Tanasevitch 2010: 104, figs 39–43 (♂♀).

Material examined. 1♀, CHINA, Yunnan: Menglun Town: Xishuangbanna Botanical Garden, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 5.–12.01.2007, primary

tropical seasonal rain forest, fogging; 1♂, 21°55.035'N, 101°16.560'E, elevation ca 558 m, 12.05.2007, primary tropical seasonal rain forest, fogging; 1♂, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 6.–12.03.2007, *Paramichelia baillonii* plantation, fogging; 1♀, 21°54.674'N, 101°16.207'E, elevation ca 583 m, 11.11.2009, rubber tree plantation, fogging; 1♀, 21°54.555'N, 101°16.860'E, elevation ca 610 m, 29.11.2009, evergreen forest, fogging; 1♂, G213 Road, 21°53.992'N, 101°16.948'E, elevation ca 596 m, 2.12.2009, *Anogeissus acuminate* plantation, fogging.

Distribution. China, Myanmar, Vietnam.

Genus *Nasoonaria* Wunderlich & Song, 1995

Nasoonaria: Wunderlich and Song 1995: 346. Type species *Nasoonaria sinensis* Wunderlich & Song, 1995 from China.

Nasoonaria circinata sp. n.

http://zoobank.org/B3E2B97F-3B5E-4269-9A64-7BD8A8F3699C

Figs 58–61

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 22.07.2007, primary tropical seasonal rain forest, fogging. Paratypes 1♂1♀, same data as holotype; 1♀, 21°54.718'N, 101°16.940'E, elevation ca 645 m, 5.–12.02.2007, primary tropical seasonal moist forest, Menglun Nature Reserve, hand-collecting; 2♂, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 1.–15.04.2007, primary tropical seasonal rain forest, Menglun Nature Reserve, trunk traps; 2♂2♀, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 16.–31.05.2007, primary tropical seasonal rain forest, pitfall traps; 2♂5♀, 21°54.380'N, 101°16.815'E, elevation ca 620 m, 21.11.2009, G213 Road, bamboo plantation, fogging; 10♂14♀, 21°54.614'N, 101°16.890'E, elevation ca 640 m, 14.11.2009, Lvshilin tropical rain forest, fogging; 4♀, 21°54.714'N, 101°16.935'E, elevation ca 660 m, 16.11.2009, Lvshilin tropical rain forest, fogging; 1♂13♀, 21°54.705'N, 101°16.898'E, elevation ca 664 m, 15.11.2009, Lvshilin tropical rain forest, fogging; 15♀, 21°53.646'N, 101°16.975'E, elevation ca 589 m, 26.11.2009, G213 Road, bamboo plantation, fogging; 3♀, 21°53.622'N, 101°16.955'E, elevation ca 581 m, 26.11.2009, G213 Road, bamboo plantation, fogging; 5♂7♀, 21°53.794'N, 101°17.152'E, elevation ca 594 m, 27.11.2009, G213 road, evergreen forest, fogging; 2♀, 21°54.089'N, 101°17.024'E, elevation ca 570 m, 28.11.2009, G213 road, fogging.

Etymology. This specific name originates from the Latin word 'circinatus, meaning 'coiled', for the long embolus exhibiting coil-like loops; adjective.

Diagnosis. Male of *N. circinata* sp. n. can be distinguished from the type species by the modified carapace (Fig. 59E), prominent distal suprategular apophysis and the

long, coiled embolus in palp (Fig. 58B). The female is distinguished from *N. sinensis* Wunderlich & Song, 1995 by the different pathway taken by the copulatory ducts and by the position of spermathecae (Fig. 60C).

Description. Male (holotype). Total length: 2.35. Carapace 0.95 long, 0.75 wide, reddish brown, raised into a hump in the middle of the thoracic part, with a row of long setae growing along the axis from the ocular area to the hump. Sternum 0.47 long, 0.47 wide. Clypeus 0.16 high. Chelicerae promargin with 5 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.06, ALE 0.10, PME 0.08, PLE 0.10, AME-AME/AME 0.50, PME-PME/PME 0.50, AME-ALE/ALE 0.50, PME-PLE/PLE 0.75, coxae IV separated by 1.38 their width. Length of legs: I 4.27 (1.13, 0.30, 0.97, 1.09, 0.78), II 4.15 (1.09, 0.30, 1.13, 1.00, 0.63), III 3.13 (0.76, 0.28, 0.78, 0.78, 0.53), IV 4.01 (1.13, 0.25, 1.00, 1.00, 0.63). Leg formula: I-II-IV-III. TmI 0.61, TmIV 0.69. Tibial spine formula: 2-2-1-1. Palp: tibia cone-shaped, with slightly protruding dorsal apophysis (Fig. 59A) and 2 retrolateral trichobothria. Paracymbium 'U'-shaped, with wide base and attenuated, round black apex (Fig. 58B); Embolus long, slim, forming two coils (Fig. 58A–D). Distal suprategular apophysis broad at base, distally taper (Fig. 58B).

Female (one of paratypes). Total length: 2.50. Carapace 0.90 long, 0.75 wide, similar to that of male in coloration, but slightly lighter, unmodified. Sternum 0.53 long, 0.53 wide. Clypeus 0.15 high. Chelicerae promargin with 6 teeth, retromargin with 4 teeth. Eyes diameter and interdistances: AME 0.08, ALE 0.10, PME 0.08, PLE 0.08, AME-AME/AME 0.25, PME-PME/PME 0.25, AME-ALE/ALE 0.30, PME-PLE/PLE 0.25, Coxae IV separated by 1.36 times their width. Lengths of legs: I 3.96 (1.10, 0.30, 1.06, 0.90, 0.60), II 3.71 (1.00, 0.30, 0.90, 0.88, 0.63), III 3.00 (0.81, 0.28, 0.75, 0.69, 0.47), IV 3.94 (1.06, 0.25, 1.00, 1.00, 0.63). Leg formula: I-IV-III-II. TmI 0.60, TmIV 0.66. Epigyne: ventral plate slightly narrowed mesally (Fig. 60A). Copulatory ducts long and sinuous, extending anteriorly then turning back to connect with spermathecae (Fig. 60C). Spermathecae globular, separated from each other by about 1.5 their diameters (Fig. 60C). Fertilization ducts directed mesally (Fig. 60C).

Distribution. Known only from type localities.

Nasoonaria sinensis Wunderlich & Song, 1995

Nasoonaria sinensis: Wunderlich and Song 1995: 347, figs 11–18 (♂♀).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°54.984'N, 101°16.982'E, elevation ca 656 m, 19.–26.05.2006, secondary tropical seasonal rain forest, hand-collecting; 1♂1♀, 21°54.747'N, 101°11.431'E, elevation ca 880 m, 19.–27.08.2006, secondary tropical montane evergreen broad-leaved forest, hand-collecting; 1♂, 21°54.984'N, 101°16.982'E, elevation ca 656 m, 5.–12.09.2006, secondary tropical seasonal rain forest, hand-collecting; 1♀,

21°54.772'N, 101°16.043'E, elevation ca 556 m, 19.–25.01.2007, *Paramichelia baillonii* plantation, hand-collecting; 1♀, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 19.–25.01.2007, secondary tropical seasonal rain forest, hand-collecting.

Distribution. China.

Genus *Nematogmus* Simon, 1884

Nematogmus: Simon 1884: 615. Type species *Theridion sanguinolentum* Walckenaer, 1841.

Nematogmus sanguinolentus (Walckenaer, 1841)

Theridion sanguinolentum: Walckenaer 1841: 326 (♀).
Nematogmus sanguinolentus: Simon 1884: 615, figs 431–432 (♂♀).

Material examined. 3♀, CHINA, Yunnan: Mengla County: Xishuangbanna Nature Reserve, Xiaolongha biodiversity preservation corridor, 21°24.832'N, 101°37.906'E, elevation ca 721 m, 18.11.2013, valley evergreen rain forest, sieving; 1♂9♀, Xishuangbanna Nature Reserve, Xiaolongha biodiversity preservation corridor, 21°24.832'N, 101°37.906'E, elevation ca 721 m, 19.06.2013, valley evergreen rain forest, sieving; 3♀, Mengyang Town: Baihuashan Tunnel: Xishuangbanna nature reserve, 22°09.513'N, 100°53.220'E, elevation ca 894 m, 25.06.2013, tropical seasonal rain forest, sieving; 2♀, 22°09.481'N, 100°53.358'E, elevation ca 872 m, 29.06.2013, tropical seasonal rain forest, sieving.

Distribution. Palearctic.

Genus *Neriene* Blackwall, 1833

Neriene: Blackwall 1833: 188. Type species *Neriene marginata* Blackwall, 1833 (= *N. clathrata* (Sundevall, 1830)).

Neriene circifolia sp. n.

http://zoobank.org/EE96A747-DA48-45D9-9EB9-3E55CAA73507
Figs 62–65

Types. Holotype ♂: CHINA, Yunnan: Mengla County: Xishuangbanna Nature Reserve, Xiaolongha biodiversity preservation corridor, 21°24.236'N, 101°36.268'E, elevation ca 711 m, 17.06.2013, tropical seasonal rain forest, hand-collecting. Paratype 1♀, 21°24.159'N, 101°37.178'E, elevation ca 635 m, 27.06.2012, tropical seasonal rain forest, fogging.

Etymology. This specific name originates from the Latin words 'circum' meaning 'in a circle' and 'folius' meaning 'leaf', referring to the shape of the median membrane, the apex of which looks like a small, round leaf; term in apposition.

Diagnosis. This species is similar to *N. birmanica* (Thorell, 1887) by having small paracymbium with a curved, filiform tip (Fig. 62B) and the stout, wide terminal apophysis forming about one coil (Fig. 62D). It could be distinguished from *N. birmanica* by the shape of embolus and lamella. *Neriene birmanica* has sword-like embolus (Xu et al. 2010: fig. 6), a slim, spear-like lateral projection of the lamella (Xu et al. 2010: fig. 3), while *N. circifolia* sp. n. has a rostriform embolus, slightly curved at tip (Fig. 62C), and a broader and more sclerotized lateral projection of lamella (Fig. 62A). In female's epigyne, the spiral grooves forming one more coil than that in *N. birmanica* (Fig. 64C).

Description. Male (holotype). Total length: 2.19. Carapace 1.00 long, 0.86 wide, greenish brown in coloration. Sternum 0.59 long, 0.56 wide. Clypeus 0.19 high. Chelicerae promargin with 6 teeth, retromargin with 6 teeth. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.10, PLE 0.10, AME-AME/AME 0.38, PME-PME/PME 0.60, AME-ALE/ALE 0.78, PME-PLE/PLE 1.00, coxae IV separated by 0.78 time their width. Length of legs: I 4.45 (1.19, 0.31, 1.06, 1.17, 0.72), II 3.68 (1.00, 0.31, 0.94, 1.05, 0.38), III 2.52 (0.69, 0.23, 0.53, 0.63, 0.44), IV 3.35 (0.83, 0.25, 0.75, 0.97, 0.55). Leg formula: I-II-IV-III. TmI 0.25. Patellar spine formula 2-2-2-2. Abdomen dark green with three irregular white patches at each lateral side. Palp: patella short, with one long dorsal seta; tibia with two retrolateral trichobothria, and long setae (Fig. 62A–B); paracymbium small, 'J'-shaped, with a tapering tip (Figs 62B, 65B); lamella with three projections: anterior projection wide and blunt, the posterior one long, straight with slightly curved tip, the lateral one with sharp tip (Figs 62A, 63B). Terminal apophysis stout, broad, forming about one coil (Fig. 62D); median membrane with leaf-like tip (Fig. 62C); embolus simple, bending forward at half length, with beak-like tip (Fig. 62C).

Female (paratype). Total length: 2.68. Carapace 1.00 long, 0.64 wide, same coloration and pattern as male. Sternum 0.60 long, 0.50 wide. Clypeus 0.13 high. Chelicerae like in male. Eye sizes and interdistances: AME 0.08, ALE 0.10, PME 0.08, PLE 0.08, AME-AME/AME 0.25, PME-PME/PME 0.25, AME-ALE/ALE 0.30, PME-PLE/PLE 0.25, coxae IV separated by 1.36 times their width. Length of legs: I 4.13 (1.10, 0.34, 1.00, 1.04, 0.65), II 3.90 (1.02, 0.31, 0.94, 1.02, 0.61), III 2.52 (0.70, 0.24, 0.52, 0.66, 0.40), IV 3.52 (0.94, 0.28, 0.75, 1.00, 0.55). Leg formula: I-II-IV-III. TmI 0.60. Spination of patella like in male. Epigyne: atrium broad (Fig. 64A), scape of dorsal plate with a slightly pointed end (Fig. 64C). Spiral grooves with about three coils (Fig. 64B–C). Spermathecae situated mesally (Fig. 64C).

Distribution. Known only from type localities.

Remarks. We have closely examined and taken photos of the holotype of *Ambengana complexipalpis* Millidge & Russell-Smith, 1992 (Museum of Natural History, Geneva, Dr Peter J. Schwendinger), both the left palp and the habitus (Fig. 66). By comparing it with the pictures from Xu's paper (Xu et al. 2010: figs 1–7), a few differences were found in the detailed structure of palp between two species. Whether or not the new synonymy proposed by Xu et al. (2010) is valid is uncertain, and a further study is required.

Neriene macella (Thorell, 1898)

Linyphia macella: Thorell 1898: 319 (♂).
Neriene macella: van Helsdingen 1969: 186, figs 257–262 (♂♀).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Botanical Garden, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 5.–12.02.2007, rubber tree plantation, hand-collecting; 1♂, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 19.–26.03.2007, rubber-tea plantation, hand-collecting; 1♂, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 19.–26.04.2007, *Paramichelia baillonii* plantation, hand-collecting.

Distribution. China, Laos, Malaysia, Myanmar, Thailand.

Neriene nitens Zhu & Chen, 1991

Neriene nitens: Chen and Zhang 1991: 167, figs 166. 1–9 (♂♀).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 30.07.2007, primary tropical seasonal rain forest, fogging.

Distribution. China.

Neriene strandia (Blauvelt, 1936)

Linyphia strandia: Blauvelt 1936: 116, pl. 5, figs 32–35, 37–38 (♂♀).
Neriene strandia: van Helsdingen 1969: 247, figs 343–346 (♂♀).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Botanical Garden, 21°54.646'N, 101°16.257'E, elevation ca 572 m, 1.–9.10.2006, rubber-tea plantation, fogging.

Distribution. Borneo, China.

Genus *Oedothorax* Bertkau, 1883

Oedothorax Bertkau, in Förster and Bertkau 1883: 235. Type species *Neriene gibbosa* Blackwall, 1841.

Oedothorax biantu sp. n.

http://zoobank.org/75C1B392-8785-4AD8-BC82-D58EBBD7A8C4

Figs 67–68

Types. Holotype ♀: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.380'N, 101°16.518'E, elevation ca 627 m, 22.11.2009, bamboo plantation, fogging.

Etymology. This name comes from the Chinese Pinyin 'biān tū', meaning 'knobs on each side', referring to the prominence on each side of the ventral plate of epigyne; noun in apposition.

Diagnosis. This species is diagnosed by short copulatory ducts (Fig. 67A), position of spermathecae (Fig. 67C); it differs from congeners by tibial spination (1-1-1-1 in new species and 2-2-1-1 in other), the knob on each side of ventral plate and the long slits on the ventral plate (Fig. 67A).

Description. Female (holotype). Total length: 1.45. Carapace 0.68 long, 0.56 wide, dark brown. Sternum 0.31 long, 0.35 wide. Clypeus 0.10 high. Chelicerae promargin with 3 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.05, PLE 0.06, AME-AME/AME 0.75, PME-PME/PME 0.60, AME-ALE/ALE 0.33, PME-PLE/PLE 0.67, coxae IV separated by 1.36 times their width. Length of legs: I 1.57 (0.44, 0.19, 0.38, 0.31, 0.25), II 1.50 (0.43, 0.19, 0.35, 0.28, 0.25), III 1.32 (0.34, 0.16, 0.34, 0.25, 0.23), IV 1.63 (0.47, 0.16, 0.41, 0.34, 0.25). Leg formula: IV-I-II-III. TmI 0.59, TmIV 0.59. Tibial spine formula 1-1-1-1 Abdomen greenish grey. Epigyne: ventral plate broad and slightly swollen, with a wavy posterior rim and one small knob on each side (Figs 67A, 68A); copulatory ducts complex (Figs 67C, 68B); spermathecae oval, separated by 2.00 times their diameter; fertilization ducts short (Fig. 67B).

Male. Unknown.

Distribution. Known only from type locality.

Genus *Oilinyphia* Ono & Saito, 1989

Oilinyphia: Ono and Saito 1989: 232. Type species *Oilinyphia peculiaris* Ono & Saito, 1989 from Japan.

Oilinyphia hengji sp. n.

http://zoobank.org/25D0F06E-5735-4DC8-8C43-6232EBF98076

Figs 69–72

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°54.725'N, 101°13.261'E, elevation ca 734 m, 8.08.2007, primary tropical seasonal rain forest, fogging. Paratype 1♀, Lvshilin, 21°54.617'N, 101°16.843'E, elevation ca 738 m, 8.08.2011, primary tropical seasonal rain forest, fogging.

Etymology. The name comes from the Chinese Pinyin 'héng jǐ', which means 'ridge', referring to the transversal ridges on the dorsum of its abdomen; noun in apposition.

Diagnosis. This species is similar to *O. jadbounorum Ponksee* & Tanikawa, 2010 from Thailand by the body shape, conformation of palp and epigyne, but differs from sibling species by wide tip of the embolus (Fig. 69A) (pointed in *O. jadbounorum* (Ponksee and Tanikawa 2010: fig. 3)). Females of two species differ by the shape of the median extension of the ventral plate tapering in *O. jadbounorum* (Ponksee and Tanikawa 2010: fig. 2) and almost rectangular in the new species (Fig. 71A). The new species clearly differs from the generotype by having TmIV, 2 cheliceral teeth instead of 3, small papillae on the abdomen and by the shape of the copulatory organs.

Description. Male (holotype). Total length: 1.00. Carapace 0.53 long, 0.48 wide, reddish brown. Sternum 0.28 long, 0.35 wide, heart-shaped, sparsely clothed by small tubercles. Clypeus 0.08 high. Chelicerae promargin with 2 teeth, retromargin with 0 teeth. Eye sizes and interdistances: AME 0.08, ALE 0.10, PME 0.08, PLE 0.07, AME-AME/AME 0.06, PME-PME/PME 0.75, AME-ALE/ALE 0.25, PME-PLE/PLE 0.29, coxae IV separated by 1.41 their diameters. Length of legs: I 1.72 (0.44, 0.16, 0.40, 0.41, 0.31), II 1.87 (0.48, 0.18, 0.45, 0.42, 0.34), III 1.31 (0.22, 0.12, 0.34, 0.33, 0.30), IV 1.72 (0.45, 0.15, 0.44, 0.38, 0.30). Leg formula: I-II-IV-III. TmI 0.32, TmIV 0.24. Abdomen dark green, cone-like with attenuated posterior tip, adorned with ridges and papillae. Palp: tibia with one retrolateral trichobothrium and without apophyses; paracymbium broad at base, 'C'-shaped (Figs 69B, 72B); protegulum somewhat triangular (Fig. 77B); distal suprategular apophysis thorn-like (Fig. 69A–B); median membrane slender and short, with attenuated tip (Fig. 69C–D); lamella with three apophyses, the distal one long, with a blunt end; the mesal one short, with pointed apex; the proximal one long and straight; embolus short, broad, slightly curved (Figs 69A, 72A).

Female (paratype). Total length: 1.38. Carapace 0.56 long, 0.39 wide, same coloration as in male. Sternum 0.31 long, 0.35 wide. Clypeus 0.09 high. Chelicerae promargin with 3 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.05, ALE 0.05, PME 0.05, PLE 0.05, AME-AME/AME 0.20, PME-PME/PME 0.50, AME-ALE/ALE 0.60, PME-PLE/PLE 0.56, coxae IV separated by 1.36 times their width. Length of legs: I 1.90 (0.50, 0.15, 0.45, 0.45, 0.35), II 2.05 (0.50, 0.19, 0.50, 0.48, 0.35), III 1.67 (0.47, 0.16, 0.34, 0.38, 0.32), IV 1.63 (0.47, 0.16, 0.41, 0.34, 0.25). Leg formula: IV-I-II-III. TmI 0.28, TmIV 0.59. Abdomen same coloration and pattern as male. Epigyne: ventral plate wide, extended mesally with a truncated end (Fig. 71A); copulatory ducts short and simple; spermathecae oval, separated by less than their diameter (Fig. 71C); fertilization ducts short, turning upwards (Fig. 71B).

Distribution. Known only from type localities.

Genus *Paikiniana* Eskov, 1992

Paikiniana: Eskov 1992: 164. Type species *Cornicularia bella* Paik, 1978 from Korea.

***Paikiniana furcata* sp. n.**
http://zoobank.org/59D05E5C-FB7B-472E-8EF1-CCB351C49463
Figs 73–76

Types. Holotype ♂: CHINA, Yunnan: Mengyang Town: Xishuangbanna nature reserve, 22°09.513'N, 100°53.220'E, elevation ca 894 m, 25.06.2013, tropical seasonal rain forest, sieving. Paratypes 4♂9♀, same data as holotype; 1♂10♀, 22°09.776'N, 100°52.565'E, elevation ca 921 m, 26.06.2013, tropical seasonal rain forest, sieving; 4♂1♀, Guanping Town: Xishuangbanna nature reserve, 22°13.646'N, 100°53.348'E, elevation ca 939 m, 27.06.2013, tropical seasonal rain forest, sieving; 1♀, 22°19.461'N, 100°53.429'E, elevation ca 851 m, 28.06.2013, tropical seasonal rain forest, sieving; 1♂, 22°19.463'N, 100°53.429'E, elevation ca 851 m, 29.06.2013, tropical seasonal rain forest, sieving; 3♂, Menghai Town: Mangunzi Village: Xishuangbanna nature reserve, 22°01.772'N, 100°23.711'E, elevation ca 1187 m, 25.06.2013, secondary tropical seasonal rain forest, sieving.

Etymology. This specific name was taken from the Latin word 'furcatus', which means 'forked', referring to the bifurcate tip of the distal suprategular process; adjective.

Diagnosis. The male is easily distinguished from other *Paikiniana* species by the forked end of distal suprategular apophysis and the slightly acute angle formed by the two retrolateral tibial apophyses (Fig. 73A–B). The shape of carapace lobe in *P. furcillata* sp. n. resembles that in *P. vulgaris* (Oi, 1960) (Oi 1960: fig. 15), but differs from it by the detailed structure of distal suprategular apophysis. The embolic division resembles that in *P. lurida* (Seo, 1991) (Song and Li 2008: fig. 53), but distinguished from it by the shape of embolic basal lobe and tailpiece (Fig. 73C). The female of the new species has a short projection from the dorsal plate (Fig. 75A), short copulatory ducts and large spermathecae (Fig. 75C), and is similar to *P. biceps* Song & Li, 2008 (Song and Li 2008: figs 42–45).

Description. Male (holotype). Total length: 1.85. Carapace 0.94 long, 0.69 wide, bright orange, with horn-shaped cephalic lobe. Sternum 0.47 long, 0.53 wide. Clypeus 0.16 high. Chelicerae promargin with 4 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.06, PLE 0.08, AME-AME/AME 0.33, PME-PME/PME 0.33, AME-ALE/ALE 0.10, PME-PLE/PLE 0.13, coxae IV separated by 1.14 times their width. Length of legs: I 2.88 (0.81, 0.25, 0.78, 0.63, 0.41), II 2.78 (0.78, 0.25, 0.75, 0.60, 0.40), III 2.17 (0.62, 0.20, 0.56, 0.49, 0.30), IV 2.85 (0.80, 0.25, 0.79, 0.65, 0.36). Leg formula: I-IV-II-III. TmI 0.46, TmIV 0.63. Tibial and patellar spine formula: 1-1-1-1. Palp: tibia distally broadened, cone-shaped, with 2 retrolateral trichobothria and 2 tibial apophyses forming an acute angle, the distal one flat, triangular, close to the cymbium, the proximal shorter, directed upward (Fig. 73B); paracymbium hook-shaped (Figs 73B, 76B); protegulum membranous (Fig. 73A); distal suprategular apophysis bifurcated at tip (Fig 73A); embolic basal lobe small, pointed (Fig. 73C–D); tailpiece of radix leaf-like from the prolateral view (Figs 73A, 76A).

Female (one of paratypes). Total length: 2.22. Carapace 0.97 long, 0.80 wide, same as male in coloration, unmodified. Sternum 0.55 long, 0.58 wide. Clypeus 0.16

high. Chelicerae like in male. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.08, PLE 0.08, AME-AME/AME 0.13, PME-PME/PME 0.38, AME-ALE/ALE 0.11, PME-PLE/PLE 0.25, coxae IV separated by 1.18 times their width. Length of legs: I 3.06 (0.88, 0.28, 0.82, 0.64, 0.44), II 2.92 (0.84, 0.28, 0.78, 0.63, 0.39), III 2.37 (0.66, 0.23, 0.58, 0.56, 0.34), IV 3.01 (0.88, 0.25, 0.81, 0.69, 0.38). Leg formula: I-IV- II-III. TmI 0.48, TmIV 0.36. Spination as in male. Epigyne: ventral plate basally wide, posterior rim narrowed (Fig. 75A); scapoid tongue-shaped; copulatory ducts short, mesally oriented, spermathecae somewhat elliptical, separated by their minimal diameter (Fig. 75B–C).

Distribution. Known only from type localities.

Genus *Parameioneta* Locket, 1982

Parameioneta: Locket 1982: 375. Type species *Parameioneta spicata* Locket, 1982 from Malaysia.

Parameioneta bishou sp. n.

http://zoobank.org/4EC61749-6E28-42E7-9199-F4CDE9F83D5C

Figs 77–80

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Botanical Garden, 5.–12.07.2007, fogging. Paratype 1♂, 21°54.555'N, 101°16.860'E, elevation ca 610 m, 29.11.2009, evergreen forest, fogging. Paratypes 1♀, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 5.–12.03.2007, *Paramichelia baillonii* plantation, hand-collecting; 1♀, 21°54.459'N, 101°16.750'E, elevation ca 640 m, 20.XI.2009, G213 Road, secondary forest, fogging.

Etymology. This name is from the Chinese Pinyin 'bì shǒu', meaning 'short/small sword', which refers to the sword-shaped tibial dorsal apophysis; noun in apposition.

Diagnosis. Male of new species is similar to *P. biobata* Tu & Li, 2006, but differs in the following aspects: *P. biobata* has one curved tibial apophysis (Tu and Li 2006: fig. 7A), while *P. bishou* sp. n. has three (Figs 77A–B, 78A–B); paracymbium's apex in *P. bishou* sp. n. is broad (Fig. 77B), not as slim as in *P. biobata* (Tu and Li 2006: fig. 7A); lamella characteristica in *P. bishou* sp. n. has two branches, both of which are long and pointed (Fig. 78B), while in *P. biobata* one is pointed, the other is broad at tip (Tu and Li 2006: fig. 7C). The female is distinguished from other congeners by the conformation of epigyne.

Description. Male (holotype). Total length: 1.52. Carapace 0.75 long, 0.54 wide, reddish brown. Sternum 0.40 long, 0.33 wide. Clypeus 0.10 high. Chelicerae promargin with 4 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.06, PLE 0.06, AME-AME/AME 0.60, PME-PME/PME 0.67, AME-ALE/ALE 0.33, PME-PLE/PLE 0.67, coxae IV separated by 0.8 time

their width. Length of legs: I 2.68 (0.72, 0.19, 0.70, 0.65, 0.42), II 2.39 (0.65, 0.18, 0.61, 0.55, 0.40), III 1.85 (0.50, 0.15, 0.45, 0.45, 0.30), IV 2.49 (0.69, 0.17, 0.65, 0.60, 0.38). Leg formula: I-IV-II-III. TmI 0.30. Abdomen grey, posterior end slightly darker than the anterior part. Palp: tibia with two retrolateral apophyses and one dorsal apophysis (Figs 77A–B, 78A–B); one tibial retrolateral apophysis sheet-like, slightly curved, the other close to patella, cone-shaped, slightly curved at tip; dorsal tibial apophysis sword-shaped; cymbium with a retrobasal excavation (Figs 77B, 80B); paracymbium 'V'-shaped, with a pointed process at the turning point, tip broad (Fig. 77B); pit hook short, hooked at tip (Fig. 77D); radix with one small pointed apophysis dorsally (Fig. 77A); anterior terminal apophysis short, flag-like (Fig. 77C); posterior terminal apophysis long, sword-like (Fig. 78C); lamella characteristica with two branches, both long, with pointed apex (Fig. 78B); median membrane with a broad end (Fig. 77C).

Female (one of paratypes). Total length: 1. 38. Carapace 0.58 long, 0.42 wide, brown. Sternum 0.35 long, 0.31 wide. Clypeus 0.06 high. Chelicerae promargin with 3 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.06, PLE 0.05, AME-AME/AME 1.00, PME-PME/PME 0.50, AME-ALE/ALE 0.33, PME-PLE/PLE 0.40, coxae IV separated by 0.92 their diameters. Length of legs: I 2.40 (0.63, 0.19, 0.63, 0.55, 0.40), II / (0.56, 0.17, /, /, /), III 1.66 (0.45, 0.15, 0.40, 0.40, 0.26), IV 2.24 (0.63, 0.16, 0.60, 0.51, 0.34). Leg formula: I-IV-III. Tm I 0.31, Abdomen light greenish grey, with pale patches. Epigyne: ventral plate oval, wider anteriorly, concave (Fig. 79A); scape 'S'-shaped, folded, basally broad, with tapering tip (Fig. 79B–D); spermathecae long, narrow, 'C'-shaped in lateral view (Fig. 79D).

Distribution. Known only from type localities.

***Parameioneta multifida* sp. n.**
http://zoobank.org/48814403-1A24-4F41-AE7B-3A1A2CFEC754
Figs 81–84

Types. Holotype ♂: Holotype: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 19.–26.05.2007, *Paramichelia baillonii* plantation, hand-collecting. Paratypes 1♂, same data as holotype; 9♂, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 1.–9.11.2006, *P.baillonii* plantation, hand-collecting; 1♂, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 1.–15.01.2007, *P. baillonii* plantation, pitfall traps; 1♀, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 5.–12.01.2007, *P. baillonii* plantation, hand-collecting; 2♀, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 19.–25.01.2007, *P. baillonii* plantation, hand-collecting; 1♀, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 5.–12.02.2007, *P. baillonii* plantation, hand-collecting; 3♀, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 1.–15.04.2007, *P. baillonii* plantation, pitfall traps; 1♂, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 4.–11.04.2007, *P. baillonii* plantation, hand-collecting; 17♂, 21°53.823'N, 101°17.072'E, elevation ca 613 m,

1.–15.05.2007, *P. baillonii* plantation, pitfall traps; 1♀, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 19.–26.05.2007, *P. baillonii* plantation, hand-collecting.

Etymology. This name originates from the Latin word 'multi-' and '-fidus', and the combination means 'multiply-clefted', referring to the apex of lamella characteristica; adjective.

Diagnosis. The new species differs from other congeners by the shape of lamella characteristica (Fig. 81A–B) and the tip of embolus (Fig. 81C–D).

Description. Male (holotype). Total length: 1.31. Carapace 0.63 long, 0.55 wide, yellow. Abdomen greenish brown. Sternum 0.38 long, 0.36 wide. Clypeus 0.13 high. Chelicerae promargin with 4 teeth, retromargin with 2 teeth. Eye sizes and interdistances: AME 0.07, ALE 0.07, PME 0.06, PLE 0.07, AME-AME/AME 0.10, PME-PME/PME 0.50, AME-ALE/ALE 0.29, PME-PLE/PLE 0.43, coxae IV separated by their width. Length of legs: I 2.34 (0.60, 0.19, 0.63, 0.53, 0.39), II 2.13 (0.56, 0.18, 0.55, 0.48, 0.36), III 1.70 (0.44, 0.16, 0.40, 0.40, 0.30), IV 2.24 (0.58, 0.18, 0.60, 0.50, 0.38). Leg formula: I-IV-II-III. TmI 0.21. Palp: tibia with one retrolateral trichobothrium and one dorsal trichobothrium; tibial retrolateral apophysis with a patch of small tubercles (Figs 81B, 92A); paracymbium 'C'-shaped, mesally broad (Fig. 81B); pit hook on distal part of suprategulum, short (Fig. 81C–D); lamella characteristica long, narrow, belt-like, then directed distally (Figs 81A–B, 82B); anterior terminal apophysis long, with tapering tip; posterior terminal apophysis short and erect (Fig. 81C–D); median membrane in ill-defined shape, covering the tip of embolus (Figs 81B, 82B); embolus with a pointed tip (Fig. 81D).

Female. Total length: 1.41. Carapace 0.63 long, 0.44 wide, yellow. Abdomen tanned. Sternum 0.34 long, 0.31 wide. Clypeus 0.08 high. Chelicerae promargin with 4 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.05, PME 0.06, PLE 0.04, AME-AME/AME 0.50, PME-PME/PME 0.50, AME-ALE/ALE 0.40, PME-PLE/PLE 0.50, coxae IV separated by 1.44 their diameters. Length of legs: I 1.96 (0.50, 0.16, 0.52, 0.44, 0.34), II 1.80 (0.47, 0.16, 0.45, 0.42, 0.30), III 1.72 (0.39, 0.16, 0.45, 0.42, 0.30), IV 1.93 (0.53, 0.15, 0.50, 0.45, 0.30). Leg formula: I-IV-II-III. TmI 0.32, TmIV 0.38. Epigyne: trapezoidal; scape long and folded (Fig. 83B–C); in lateral view, proscape bulged; copulatory ducts going along the scape, then turning aside to connect with spermathecae (Figs 83C, 84B); spermathecae long, with two cells (Fig. 83C).

Distribution. Known only from type localities.

Parameioneta tricolorata sp. n.

http://zoobank.org/16A8893C-B7E1-4A46-A20C-A787C4293D3D

Figs 85–88

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 19.–26.05.2007, *Paramichelia baillonii* plantation, hand-collecting. Paratypes 1♂, 21°54.684'N, 101°16.319'E,

elevation ca 585 m, 5.–12.10.2006, rubber tree plantation, hand-collecting; 1♀, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 5.–12.12.2006, *P. baillonii* plantation, hand-collecting; 21°54.035'N, 101°16.500'E, elevation ca 558 m, 5.–12.01.2007, primary tropical seasonal rain forest, hand-collecting; 1♂, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 16.–31.01.2007, rubber tree plantation, hand-collecting; 3♂, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 1.–15.03.2007, rubber tree plantation, pitfall traps; 4♂, 21°54.498'N, 101°16.326'E, elevation ca 586 m, 1.–15.04. 2007, rubber tree plantation, pitfall traps; 1♀, 21°54.498'N, 101°16.326'E, elevation ca 586 m, 1.–15.04.2007, rubber tree plantation, trunk traps; 1♂, 21°53.823'N, 101°17.072'E, elevation ca 613 m, 4.–11.05.2007, *P. baillonii* plantation, hand-collecting; 1♂, 21°55.551'N, 101°16.923'E, elevation ca 561 m, 10.–20.06.2007, rubber-tea plantation, hand-collecting; 1♂, 21°54.646'N, 101°16.257'E, elevation ca 572 m, 1.–9.10.2007, rubber-tea plantation, pitfall traps; 1♂, 21°54.705'N, 101°16.898'E, elevation ca 656 m, 13.11.2009, Lvshilin tropical rain forest, fogging.

Etymology. This name comes from the Latin 'tres-', meaning 'three', and the Latin word 'coloratus', meaning 'colored', and the combination refers to the three transversal bands of different colors on the dorsum of the abdomen; adjective.

Diagnosis. This species is similar to *P. biobata* Tu & Li, 2006 by the shape of embolus (Tu and Li 2006: fig. 8C; Fig. 85D) and the median membrane (Tu and Li 2006: fig. 8B); differs in the following aspects: *P. tricolorata* sp. n. has a much smaller tibial dorsal apophysis (Fig. 85B); the shape of radix is different in two species (Tu and Li 2006: fig. 7B; Fig. 85A); the structure of lamella characteristica differs in two species. The color pattern of abdomen in *P. tricolorata* sp. n. (Fig. 86C) is quite similar to the type species *P. spicata* Locket, 1982 (Locket 1982: fig. 72). The epigyne of female resembles greatly that of *P. spicata* (Locket 1982: fig. 78), but differs in the wider distal end of the scape.

Description. Male (holotype). Total length: 1.31. Carapace 0.59 long, 0.47 wide, unmodified, earthy yellow. Sternum 0.38 long, 0.30 wide. Clypeus 0.11 high. Chelicerae promargin with 5 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.07, PME 0.06, PLE 0.06, AME-AME/AME 0.50, PME-PME/PME 0.50, AME-ALE/ALE 0.14, PME-PLE/PLE 0.33, coxae IV separated by their width. Length of legs: I 2.60 (0.68, 0.18, 0.70, 0.60, 0.44), II 2.23 (0.60, 0.16, 0.58, 0.50, 0.39), III 1.71 (0.46, 0.15, 0.40, 0.40, 0.30), IV 2.29 (0.63, 0.15, 0.60, 0.53, 0.38). Leg formula: I-IV-II-III. TmI 0.33. Abdomen with three belts of different colors: from light grey to pale to dark grey with green tone. Palp: tibia with one retrolateral and one dorsal trichobothrium; dorsal tibial apophysis small, hooked (Fig. 85B); paracymbium 'C'-shaped (Figs 85B, 86B); pit hook short, hooked at tip (Fig. 86A); lamella characteristica with two branches, one long, tapered at tip, the other broad and shorter, with a pointed apex (Fig. 86B); embolus stout, with opening at tip (Fig. 85D).

Female (paratype). Total length: 1.54. Carapace 0.63 long, 0.52 wide, dark yellow. Sternum 0.34 long, 0.36 wide. Clypeus 0.16 high. Chelicerae promargin with 7 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.03, ALE 0.08, PME 0.08, PLE 0.07, AME-AME/AME 1.00, PME-PME/PME 0.38, AME-ALE/ALE 0.38, PME-PLE/PLE 0.29, coxae IV separated by 0.84 time their width. Length

of legs: I 2.22 (0.50, 0.20, 0.63, 0.52, 0.37), II 2.38 (0.64, 0.20, 0.60, 0.56, 0.38), III 1.98 (0.53, 0.19, 0.44, 0.46, 0.36), IV 2.49 (0.70, 0.18, 0.63, 0.60, 0.38). Leg formula: IV-II-I-III. TmI 0.29, TmIV absent. Abdomen greyish green with beige patches on the dorsum. Epigyne: trapezoidal with narrower posterior end (Fig. 87A); scape long, distal part with a broad tip (Fig. 87C); spermathecae with two chambers (Fig. 87C).

Distribution. Known only from type localities.

Genus *Prosoponoides* Millidge & Russell-Smith, 1992

Prosoponoides: Millidge and Russell-Smith 1992: 1369. Type species *Prosoponoides hamatus* Millidge & Russell-Smith, 1992 from Sumatra.

Prosoponoides hamatus Millidge & Russell-Smith, 1992

Prosoponoides hamatus: Millidge and Russell-Smith 1992: 1371, figs 1–4, 8–11. (♂♀).

Material examined. 1♂, CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.809'N, 101°12.173'E, elevation ca 888 m, 4.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging; 2♂, 21°57.669'N, 101°11.893'E, elevation ca 790 m, 7.08.2007, primary tropical seasonal rain forest, fogging; 1♂, 21°54.725'N, 101°13.261'E, elevation ca 734 m, 8.08.2007, primary tropical seasonal rain forest, fogging.

Distribution. China, Sumatra.

Genus *Saitonia* Eskov, 1992

Saitonia: Eskov 1992: 49. Type species *Araeoncus muscus* Saito, 1989 from Japan.

Saitonia kawaguchikonis Saito & Ono, 2001

Saitonia kawaguchikonis: Saito and Ono 2001: 39, figs 81–85 (♂♀).

Material examined. 1♀, CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 5.–12.11.2006, rubber tree plantation, hand-collecting; 1♂, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 5.–12.12.2006, rubber tree plantation, hand-collecting; 1♀, 21°54.408'N, 101°16.326'E, elevation ca 586 m, 19.–25.12.2006, rubber tree plantation, hand-collecting; 2♀, 21°54.498'N, 101°16.326'E, elevation ca 586 m, 10.–20.01.2007, rubber tree plantation, hand-collecting; 1♂ 21°54.463'N, 101°15.978'E, elevation ca 569 m,

16.–28.02.2007, rubber tree plantation, pitfall traps; 3♂, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 16.–31.05.2007, rubber tree plantation, pitfall traps.

Distribution. China, Japan.

Genus *Smerasia* gen. n.

http://zoobank.org/B33D870C-7F08-4BB0-9D71-93AA7366729D

Type species. *Smerasia obscurus* sp. n.

Etymology. The generic name is a combination of 'smer' and 'Asia', 'smer' is the first a few letters of the genus name *Smermisia*, which is similar to this new genus by the conformation of the male palp. Gender is masculine.

Diagnosis. This genus resembles Neotropical genera *Smermisia* Simon, 1894 and *Myrmecomelix* Millidge, 1993 in the general appearence of the male palp and the conformation of embolic division (Miller 2007). They all have a plate-like radix, and an erect anterior radical process. *Smerasia* gen. n. differs from similar genera by having short and weakly sclerotized, less pointed, membranous embolus (Fig. 89C–D) (Miller 2007: figs 63–64, 104), and the paracymbium in *Smerasia* gen. n. is attenuated at apex and much more curved in general (Fig. 89B). The epigyne in *Smerasia* gen. n. is wide and with a convex dorsal plate (Fig. 91A), which is quite different from that in *Smermisia* and *Myrmecomelix*.

Description. Small sized Erigoninae. Carapace uniformly yellow. Male with modified carapace: PME area elevated with sulci behind PME and pit in them. Carapace unmodified in female. Abdomen pale with dark spinnerets area. Chelicerae in male with 5 promarginal and 5 retromarginal teeth, while female with 4 promarginal and 4 retromarginal teeth. Tibial spine formula: 2-2-1-1. TmI ca 0.80, TmIV ca 0.70.

Male palp: tibia with one short and straight dorsal apophysis; paracymbium with black, attenuated apex (Fig. 89B); protegulum small (Figs 89B, 92B); radix simple, plate-like, with short, broad tailpiece (Figs 89A, 92A); anterior radical process straight, curved, with a pointed tip (Figs 89A, 92A); distal suprategular apophysis with a broad tip (Fig. 89C–D); embolus short, inconspicuous (Fig. 89A).

Epigyne: ventral plate wide, with rounded posterior margin (Figs 91A); dorsal plate mesally concave; copulatory ducts straight (Figs 91C); spermathecae with multi-chambers, the bigger one elliptical (Fig. 91C); fertilization ducts rather short (Fig. 91B).

Species composition. Type species only: *Smerasia obscurus* sp. n.

Distribution. China.

Smerasia obscurus sp. n.

http://zoobank.org/99627A3A-2D72-4986-850A-6E9470BEF914

Figs 89–92

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.784'N, 101°11.947'E, elevation ca 895 m, 6.08.2007, secondary

tropical montane evergreen broad-leaved forest, fogging. Paratypes 5♂, same data as holotype; 2♀, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 22.07.2007, primary tropical seasonal forest, fogging; 5♂1♀, 21°57.809'N, 101°12.173'E, elevation ca 888 m, 4.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging; 3♂ 1♀, 21°54.813'N, 101°12.634'E, elevation ca 876 m, 5.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging; 6♂1♀, 21°54.767'N, 101°11.431'E, elevation ca 880 m, 6.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging; 2♂, 21°57.669'N, 101°11.893'E, elevation ca 790 m, 7.08.2007, primary tropical seasonal rain forest, fogging; 8♂, 21°54.725'N, 101°13.261'E, elevation ca 734 m, 8.08.2007, primary tropical seasonal rain forest, fogging; 1♂, 21°54.200'N, 101°16.923'E, elevation ca 608 m, 18.08.2007, *Paramechelia baillonii* plantation, fogging.

Etymology. This name is derived from the Latin word 'obscurus', which means 'obscure', referring to the ambiguous shape of the embolus; adjective.

Diagnosis. See diagnosis of the genus.

Description. Male (holotype). Total length: 1.76. Carapace 0.70 long, 0.64 wide, PME area mildly elevated, post-ocular sulci with pits stretching along the base of lobe laterally, light yellow. Sternum 0.41 long, 0.50 wide. Clypeus 0.23 high. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.05, PLE 0.06, AME-AME/AME 0.40, PME-PME/PME 0.40, AME-ALE/ALE 0.33, PME-PLE/PLE 1.00, coxae IV separated by 1.92 times their width. Length of legs: I 3.52 (0.95, 0.23, 0.88, 0.96, 0.50), II 3.56 (0.94, 0.22, 0.91, 0.94, 0.55), III 2.62 (0.72, 0.20, 0.60, 0.70, 0.40), IV 3.28 (0.90, 0.20, 0.78, 0.90, 0.50). Leg formula: II-I-III-IV. TmI 0.82, TmIV 0.73. Abdomen pale. Palp: see description of the genus.

Female (one of paratypes). Total length: 1.88. Carapace 0.75 long, 0.75 wide, unmodified, yellow. Sternum 0.42 long, 0.50 wide. Clypeus 0.16 high. Chelicerae promargin with 4 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.06, PLE 0.05, AME-AME/AME 0.63, PME-PME/PME 0.50, AME-ALE/ALE 0.33, PME-PLE/PLE 0.33, coxae IV separated by 2.00 times their width. Length of legs: I 3.84 (1.02, 0.23, 1.02, 1.02, 0.55), II 3.98 (1.09, 0.23, 1.02, 1.08, 0.56), III 2.89 (0.80, 0.20, 0.64, 0.78, 0.47), IV 3.44 (0.98, 0.22, 0.81, 0.94, 0.49). Leg formula: IV-I-II-III. TmI 0.84, TmIV 0.75. Abdomen light yellow, with dark spinnerets. Epigyne: see description of the genus.

Distribution. Known only from type localities.

Genus *Tapinopa* Westring, 1851

Tapinopa: Westring 1851: 38. Type species *Linyphia longidens* Wider, 1834 from Palearctic.

***Tapinopa undata* sp. n.**
http://zoobank.org/7A979C10-F4E1-4A67-B517-091C1F130C49
Figs 93–95

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.200'N, 101°16.923'E, elevation ca 608 m, 5.–12.11.2006, *Paramichelia baillonii* plantation, hand-collecting. Paratypes 1♂, 21°54.200'N, 101°16.923'E, elevation ca 608 m, 1.–15.07.2006, *P. baillonii* plantation, hand-collecting; 1♂, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 19.–25.11.2006, *P. baillonii* plantation, hand-collecting; 1♂, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 19.–25.12.2006, *P. baillonii* plantation, hand-collecting.

Etymology. This name is derived from the Latin word 'undatus', which means 'wavy', referring to the shape of the proximal edge of the paracymbium; adjective.

Diagnosis. This species is related to *T. vara* Locket, 1982 (from Malaysia), but differs in the shape and size of terminal apophysis (Locket 1982: figs 100–102); the pit hook in *T. undata* sp. n. is longer and has a more pointed tip compared to the related species (Fig. 93C).

Description. Male (holotype). Total length: 1.16, carapace 0.75 long, 0.63 wide, orange-yellow, with dark lateral bands. Sternum 0.38 long, 0.38 wide. Clypeus 0.09 high. Chelicerae promargin with 2 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.06, PLE 0.06, AME-AME/AME 0.33, PME-PME/PME 1.00, AME-ALE/ALE 0.50, PME-PLE/PLE 0.67, Coxae IV separated by their width. Length of legs: I 3.00 (0.78, 0.21, 0.79, 0.73, 0.49), II 2.73 (0.70, 0.19, 0.70, 0.67, 0.47), III 1.92 (0.53, 0.17, 0.40, 0.47, 0.35), IV 2.46 (0.66, 0.16, 0.56, 0.65, 0.43). Leg formula: I-II-IV-III. TmI 0.20. Patellar spination formula: 2-1-1-1. Abdomen pale, with ill-defined dark spots around its circumference, and a large spot at the posterior end. Palp: tibia short, with one retrolateral trichobothrium; paracymbium complex, 'J'-shaped, with wavelike posterior margin, apex trifurcate (Figs 93B, 95B); proximal cymbial extension turning basally, with a truncated tip (Fig. 93A–B); terminal apophysis of radix with three branches, all with curved silhouette; pit hook long, with an acute apex (Fig. 93C); radix with three projections, the posterior one stretching along paracymbium (Figs 93A, 95A); embolus short and pointed, with opening at tip (Fig. 93D).

Female. Unknown.

Distribution. Known only from type localities.

***Tapinopa vara* Locket, 1982**

Tapinopa vara: Locket 1982: 380, figs 96–105 (♂♀).

Material examined. 2♀, CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.718'N, 101°16.940'E, elevation ca 645 m, 19.–25.09.

2006, secondary tropical seasonal moist forest, hand-collecting; 1♂, 21°54.813'N, 101°12.634'E, elevation ca 876 m, 5.–12.10.2006, secondary tropical montane evergreen broad-leaved forest, hand-collecting; 3♀, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 19.–25.11.2006, *P. baillonii* plantation, hand-collecting; 3♀, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 19.–25.01.2007, *P. baillonii* plantation, hand-collecting; 1♂, 21°54.813'N, 101°12.634'E, elevation ca 876 m, 5.–12.03.2007, secondary tropical montane evergreen broad-leaved forest, hand-collecting; 1♂, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 19.–26.05.2007, rubber tree plantation, hand-collecting; 1♂, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 10.–20.06.2007, rubber tree plantation, hand-collecting.

Distribution. China, Malaysia.

Genus *Theoa* Saaristo, 1995

Theoa: Saaristo 1995: 45. Type species *Theonina tricaudata* Locket, 1992 from Malaysia.

Theoa bidentata sp. n.

http://zoobank.org/8D62CE41-D45D-4B83-A9A2-C948941F3DF7

Figs 96–99

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 4.–11.05.2007, rubber tree plantation, hand-collecting. Paratypes 5♂, same data as holotype; 1♀, 21°55.551'N, 101°16.923'E, elevation ca 561 m, 1–9.09.2006, rubber-tea plantation, pitfall traps; 4♂, 21°54.463'N, 101°15.978'E, elevation ca 569 m, 1.01.2007, rubber tree plantation, hand-collecting; 4♂1♀, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 16.–31.01.2007, rubber tree plantation, pitfall traps; 2♂, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 4.–11.04.2007, rubber tree plantation, hand-collecting; 4♂, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 1–15.05.2007, rubber tree plantation, pitfall traps; 3♂, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 4.–11.V.2007, rubber tree plantation, hand-collecting; 3♂, 21°54.684'N, 101°16.319'E, elevation ca 585 m, 16–31.05.2007, rubber tree plantation, pitfall traps; 3♂, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 19.–26.05.2007, *Paramichelia baillonii* plantation, hand-collecting; 1♀, 21°54.772'N, 101°16.034'E, elevation ca 556 m, 1.–15.06.2007, *P. baillonii* plantation, trunk traps; 1♂, 21°57.445'N, 101°12.997'E, elevation ca 774 m, 10.–20.06.2007, primary tropical seasonal rain forest, hand-collecting.

Etymology. This name is combined by 'bi', and 'dentatus', meaning 'with two teeth', which refers to the two projections on the lateral margin of the prolateral cymbial outgrowth; adjective.

Diagnosis. This species is distinguished as a member of *Theoa* by the extension at the dorso-mesal side of cymbium, and the sickle-shaped embolus with Fickert's gland about half way along (Locket 1982: fig. 87). The large spermathecae on each side of the epigyne also resembles those in *T. tricaudata* (Locket 1982: fig. 89). It differs from the type species in the following aspects: the apex of cymbial outgrowth in *T. bidentata* sp. n. is bifid (Fig. 96A), not trifid as in *T. tricaudata* (Locket 1982: fig. 86); the pit hook in *T. bidentata* is not a discrete structure and is pointed, which differs from the bifid one in *T. tricaudata*; the terminal apophyses in the two species are of different shapes (Locket 1982: fig. 84; Fig. 96B); the spermathecae are more distantly spaced in *T. bidentata* (Fig. 98A). The two species also differ in spination: 1-0-0-0 or 1-1-1-0 in the generotype and 2-2-2-2 in the new taxon.

Description. Male (holotype). Total length: 1.10. Carapace 0.60 long, 0.50 wide, unmodified, dark orange. Sternum 0.35 long, 0.34 wide. Clypeus 0.16 high. Chelicerae promargin with 5 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.03, ALE 0.06, PME 0.07, PLE 0.06, AME-AME/AME 0.01, PME-PME/PME 0.40, AME-ALE/ALE 0.67, PME-PLE/PLE 0.43, coxae IV separated by 1.33 times their width. Length of legs: I 2.51 (0.66, 0.16, 0.70, 0.55, 0.44), II 2.32 (0.63, 0.16, 0.61, 0.53, 0.39), III 1.78 (0.48, 0.16, 0.42, 0.39, 0.33), IV 2.33 (0.64, 0.16, 0.63, 0.52, 0.38). Leg formula: I-IV-II-III. TmI 0.45. Tibial spine formula 2-2-2-2. Palp: tibia small, with one retrolateral trichobothrium; paracymbium 'F'-shaped, two branches, both tapered at tip (Figs 96B, 99B); cymbium with a dorsal knob (Figs 96A, 99B); prolateral side of cymbium well-developed, almost fully covering the tegulum and suprategulum (Fig. 96A); cymbial outgrowth with two teeth-like processes at the lateral margin (Fig. 96A); pit hook bifid at tip (Fig. 96B); terminal apophysis in ill-defined shape, broad at ventral view (Fig. 96B); median membrane with a blunt apex, slightly bending forward; embolus sickle-shaped, inwardly curved, with a small, pointed embolus proper (Figs 96C, 99A); thumb of embolus small, located below embolus proper (Fig. 96C); Fickert's gland present in radix (Figs 96C, 99A).

Female (one of paratypes). Total length: 1.24. Carapace 0.55 long, 0.43 wide, brownish orange. Sternum 0.30 long, 0.34 wide. Clypeus 0.11 high. Chelicerae promargin with 3 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.03, ALE 0.06, PME 0.06, PLE 0.06, AME-AME/AME 0.33, PME-PME/PME 0.50, AME-ALE/ALE 0.33, PME-PLE/PLE 0.50, coxae IV separated by their width. Length of legs: I 2.37 (0.61, 017, 0.65, 0.50, 0.44), II 2.33 (0.59, 0.19, 0.58, 0.46, 0.41), III 1.76 (0.48, 0.15, 0.41, 0.38, 0.34), IV 2.24 (0.60, 0.16, 0.60, 0.48, 0.40). Leg formula: I-II-IV-III. TmI 0.24. Spine formula as in male. Abdomen greenish grey on dorsum, dark grey on venter. Epigyne: a wide and short ventral plate; scape long, ribbon-like, with copulatory openings at its broad end, (Fig. 98B–D); spermathecae small, separated by about four times their diameter (Fig. 98B).

Distribution. Known only from type localities.

***Theoa vesica* sp. n.**
http://zoobank.org/B79071B3-3859-412C-859D-137D368DBE0E
Figs 100–103

Types. Holotype: ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.010'N, 101°12.058'E, elevation ca 814 m, 18.08.2011, valley rain forest, fogging. Paratypes 1♀, Xishuangbanna Tropical Botanical Garden, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 1.–15.07.2007, primary tropical seasonal rain forest, trunk traps; 1♀, 21°54.813'N, 101°12.634'E, elevation ca 876 m, 4.–11.04.2007, secondary tropical montane evergreen broad-leaved forest, trunk traps.

Etymology. The name is derived from the Latin word 'vesica', which means 'bladder, purse', referring to the pouch-shaped structure in the vulva; noun in apposition.

Diagnosis. The male is recognized by the huge cymbial outgrowth (Fig. 100B), and the cresent-shaped embolus with large Fickert's gland about half way along (Fig. 100C). The female has unusually small spermathecae situated laterally (Fig. 102C). It also differs from other congeners by having TmIV.

Description. Male (holotype). Total length: 1.78. Carapace 0.90 long, 0.73 wide, unmodified, brownish red. Sternum 0.45 long, 0.50 wide. Clypeus 0.22 high. Chelicerae promargin with 2 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.06, PLE 0.06, AME-AME/AME 0.01, PME-PME/PME 0.83, AME-ALE/ALE 0.76, PME-PLE/PLE 1.33, coxae IV separated by their width. Length of legs: I 3.90 (0.94, 0.25, 1.06, 0.98, 0.67), II 3.76 (1.00, 0.22, 1.00, 0.94, 0.60), III 2.98 (0.84, 0.23, 0.72, 0.72, 0.47), IV 3.49 (1.00, 0.24, 0.94, 0.93, 0.38). Leg formula: I-IV-II-III. TmI 0.26, TmIV 0.18. Tibial spine formula: 2-2-2-2. Abdomen dark green. Palp: tibia slightly elongated; paracymbium 'C'-shaped, with a prominent distal end (Figs 100B, 101B); cymbium with a prominent process, extending proximally then turning dorsally (Fig. 100A); embolus sickle-shaped, with a small, pointed embolus proper (Fig. 100C); thumb of embolus with indented fringe (Fig. 100D); Fickert's gland very large (Fig. 100C).

Female (one of paratypes). Total length: 1.88. Carapace 0.85 long, 0.68 wide, brownish yellow. Sternum 0.47 long, 0.48 wide. Clypeus 0.16 high. Chelicerae promargin with 3 teeth, retromargin with 5 teeth. Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.06, PLE 0.07, AME-AME/AME 0.17, PME-PME/PME 0.83, AME-ALE/ALE 0.67, PME-PLE/PLE 0.86, coxae IV separated by their width. Length of legs: I 4.24 (1.09, 0.25, 1.16, 1.10, 0.64), II 3.80 (1.00, 0.25, 1.00, 0.94, 0.61), III 3.12 (0.80, 0.23, 0.81, 0.78, 0.50), IV 3.84 (1.09, 0.22, 0.98, 1.00, 0.55). Leg formula: I-IV-II-III. TmI 0.24, TmIV 0.14. Spine formula like in male. Abdomen pale. Epigyne: ventral plate bulgy (Figs 102A, 103A); scape short and broad (Fig. 102B); copulatory ducts long, following a complicated route (Fig. 102C); spermathecae small, held by a shield-like structure at each side of the epigyne (Figs 102C, 103B).

Distribution. Known only from type localities.

Genus *Vittatus* gen. n.
http://zoobank.org/88D61CBA-E709-4B44-B0B0-301A32924495

Type species. *Vittatus fencha* sp. n.

Etymology. The generic name is an arbitrary combination of letters. Gender is masculine.

Diagnosis. It is easily distinguished from other erigonine genera by its ribbon-like convector, its droplet-shaped cymbium and its prominent anterior radical apophysis (Figs 108A, 111B). The epigyne in this genus has a wide atrium and a scapoid.

Description. Small sized Erigoninae. Carapace brown, modified in male (with small hump around PME and short sulci). Chelicerae with 5 promarginal and 4 retromarginal teeth in male, and with 5 promarginal and 5 retromarginal teeth in female. Chaetotaxy: tibial spine formula: 2-2-1-1. TmI ca 0.61, TmIV ca 0.61.

Male palp: tibia with trichobothria (prolateral and dorsal) and 2 apophyses: prolateral apophyses tongue-shaped, located near tibial base; dorsal apophysis, with a cup-like stem, and a petal-like extension around the upper-rim of the stem, bending downward (Figs 108B, 111B), Cymbium droplet-shaped (subtriangular) with elongate tip. Paracymbium 'C'-shaped, broad at base (Fig. 108B). Tegulum small, with protegulum protruding ventrally (Fig. 108B). Anterior radical process bifurcate, with sharp tips (Fig. 111B); convector ribbon-like, with a tapering tip (Figs 108B, 111A); embolus long and sinuous, with a small thumb near embolus tip (Fig. 108C–D).

Epigyne: ventral plate mesally concave, with a scapoid (Fig. 110A); copulatory ducts simple (Fig. 110C); spermathecae dewdrop-shaped (Fig. 110C).

Species composition. *Vittatus bian* sp. n, the type species *V. fencha* sp. n, *V. latus* sp. n, and *V. pan* sp. n.

Distribution. China.

***Vittatus bian* sp. n.**
http://zoobank.org/FECD546B-BC6E-4232-8A30-5FC923805982
Figs 104–107

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°57.809'N, 101°12.173'E, elevation ca 888 m, 4.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging. Paratypes 3♀, 21°54.767'N, 101°11.431'E, elevation ca 880 m, 6.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging; 1♀, 21°54.646'N, 101°16.257'E, elevation ca 572 m, 16.07.2007, rubber tree plantation, fogging.

Etymology. This specific name is taken from the Chinese Pinyin 'biān', meaning 'whip', referring to the long, whip-like embolus; noun in apposition.

Diagnosis. This species is similar to *V. pan* sp. n. in the whip-like embolus and its turning direction (Fig. 104B), but differs by its dark coloration (light in *V. pan*

sp. n.) (Fig. 105C), lack of ventral tibial apophysis, straight dorsal tibial apophysis (Fig. 105A) and scape with terminal transversal arms (Fig. 106A).

Description. Male (holotype). Total length: 1.40. Carapace 0.60 long, 0.50 wide, brown, with two rows of long setae between AME and PME. Sternum 0.36 long, 0.34 wide. Clypeus 0.11 high. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.05, PLE 0.05, AME-AME/AME 0.75, PME-PME/PME 0.80, AME-ALE/ALE 0.67, PME-PLE/PLE 1.60, coxae IV separated by 1.60 times their width. Length of legs: I 2.45 (0.64, 0.19, 0.69, 0.56, 0.37), II 2.34 (0.61, 0.16, 0.63, 0.57, 0.37), III 1.55 (0.47, 0.16, 0.31, 0.31, 0.30), IV 2.38 (0.63, 0.18, 0.61, 0.61, 0.35). Leg formula: I-IV-II-III. TmI 0.53, TmIV 0.52. Abdomen greenish brown. Palp: tibia with one dorsal apophysis subdivided on the top (Fig. 105A). Cymbium droplet-shaped (Fig. 105A); paracymbium 'C'-shaped, with a leaf-like apex (Fig. 104B). Bulb with a flattened subtegulum and a slightly protruding tegulum (Fig. 104A). Embolus long, whip-like; convector long, ribbon-like (Fig. 104B). Embolus and convector of equal length. Radical apophysis straight, bifurcate (Fig. 104B).

Female (one of paratypes). Total length: 1.53. Carapace 0.51 long, 0.52 wide, dark brown, with black pattern. Sternum 0.38 long, 0.36 wide. Clypeus 0.09 high. Chelicerae promargin with 4 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.04, PLE 0.04, AME-AME/AME 1.00, PME-PME/PME 0.75, AME-ALE/ALE 0.67, PME-PLE/PLE 1.25, coxae IV separated by 1.33 times their width. Length of legs: I 2.27 (0.59, 0.17, 0.61, 0.54, 0.36), II 2.24 (0.61, 0.20, 0.58, 0.50, 0.35), III 1.82 (0.50, 0.15, 0.44, 0.44, 0.29), IV 2.25 (0.62, 0.18, 0.58, 0.55, 0.32). Leg formula: I-IV-II-III. TmI 0.56, TmIV 0.54. Abdomen dark brown. Epigyne: a ventral plate semi-rounded, mesally concave, with a membraneous scapoid, equipped by membraneous arm at each side of the tip (Fig. 106A); dorsal plate wide, with blunt posterior rim; spermathecae somewhat oval (Fig. 106C).

Distribution. Known only from type localities.

Vittatus fencha sp. n.

http://zoobank.org/5C6D0C4F-5B1E-460A-BD7D-6754010DC295

Figs 108–111

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.445'N, 101°12.997'E, elevation ca 744 m, 30.07.2007, primary tropical seasonal rain forest, fogging. Paratypes 9♂9♀, same data as holotype; 3♂4♀, 21°57.669'N, 101°11.893'E, elevation ca 790 m, 7.08.2007, primary tropical seasonal rain forest, fogging; 14♂43♀, 21°54.725'N, 101°13.261'E, elevation ca 734 m, 8.08.2007, primary tropical seasonal rain forest, fogging.

Etymology. The name for this species is derived from the Chinese Pinyin 'fēn chà', which means 'forked', in reference to the fork-shaped anterior radical apophysis in male; term in apposition.

Diagnosis. It differs from other congeners by the stem-cup-shaped dorsal tibial apophysis (Fig. 108B) and the ribbon-like embolus with a small outgrowth near tip in

palp (Fig. 109B); female resembles *V. bian* sp. n. in the closely positioned spermathecae (Figs 106C, 110C), but differs in the short and unmodified scapoid (Fig. 110A).

Description. Male (holotype). Total length: 1.80. Carapace 0.60 long, 0.53 wide, ocular area mildly lifted with short setae, brown. Sternum 0.39 long, 0.39 wide. Clypeus 0.13 high. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.06, PLE 0.06, AME-AME/AME 0.50, PME-PME/PME 1.67, AME-ALE/ALE 0.71, PME-PLE/PLE 0.67, coxae IV separated by 1.50 times their width. Length of legs: I 2.87 (0.75, 0.22, 0.78, 0.70, 0.42), II 2.80 (0.76, 0.20, 0.70, 0.66, 0.48), III 2.17 (0.63, 0.18, 0.50, 0.50, 0.36), IV 2.58 (0.63, 0.16, 0.70, 0.70, 0.39). Leg formula: I-II-IV-III. TmI 0.61, TmIV 0.61. Abdomen brown. Palp: see description of the genus.

Female (one of paratypes). Total length: 1.85. Carapace 0.65 long, 0.56 wide, unmodified, same as male in coloration. Sternum 0.41 long, 0.44 wide. Clypeus 0.13 high. Eye sizes and interdistances: AME 0.04, ALE 0.05, PME 0.04, PLE 0.05, AME-AME/AME 0.8, PME-PME/PME 1.5, AME-ALE/ALE 0.9, PME-PLE/PLE 1.1, coxae IV separated by 1.58 times their width. Length of legs: I 2.59 (0.75, 0.19, 0.64, 0.63, 0.38), II 2.49 (0.69, 0.20, 0.60, 0.60, 0.40), III 2.09 (0.63, 0.16, 0.45, 0.50, 0.35), IV 2.50 (0.70, 0.20, 0.60, 0.60, 0.40). Leg formula: I-IV-II-III. TmI 0.60, TmIV 0.63. Abdomen brown. Epigyne: see description of the genus.

Distribution. Known only from type localities.

***Vittatus latus* sp. n.**
http://zoobank.org/4B60B5E6-1F30-43E0-BEBA-13D3F61C97C2
Figs 112–115

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Nature Reserve, 21°57.809'N, 101°12.173'E, elevation ca 888 m, 4.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging. Paratypes 12♀, same data as holotype; 3♀, 21°57.784'N, 101°11.947'E, elevation ca 895 m, 6.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging; 3♀, 21°54.767'N, 101°11.431'E, elevation ca 880 m, 6.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging.

Etymology. This specific name is taken from the Latin word 'latus', meaning 'broad', in reference to the wide base of the embolus; adjective.

Diagnosis. This species greatly resembles *V. fencha* sp. n., but differs in the following aspects: the anterior radical process in *V. latus* sp. n. is larger and has a hooked tip (Fig. 112A); the embolus is wider at the base, without thumb near tip (Fig. 112B); the scapoid of *V. latus* sp. n. is much longer and the spermathecae are distantly separated (Fig. 114A, C). Palpal patella is modified with a hump in *V. latus* sp. n.

Description. Male (holotype). Total length: 1.75. Carapace 0.75 long, 0.68 wide, unmodified, orange. Abdomen pale, with greenish grey spinnerets. Sternum 0.38 long, 0.44 wide. Clypeus 0.18 high. Chelicerae promargin with 5 teeth, retromargin with 3 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.05, PME 0.03, PLE 0.04, AME-AME/AME 0.75, PME-PME/PME 1.67, AME-ALE/ALE 1.80, PME-PLE/PLE 2.50,

coxae IV separated by 1.73 of their diameters. Length of legs: I 3.03 (0.80, 0.23, 0.81, 0.75, 0.44), II 2.90 (0.80, 0.22, 0.78, 0.70, 0.40), III 2.38 (0.64, 0.20, 0.56, 0.60, 0.38), IV 2.89 (0.80, 0.20, 0.75, 0.75, 0.39). Leg formula: I-II-IV-III. TmI 0.67, TmIV 0.63. Palp: tibial prolateral apophysis modified, a tube-like process stretching from the distal margin of tibia, slightly curved (Fig. 112B), developed into a broader, hollow structure, with sulci along the bottom (Fig. 112A); a belt of conspicuous papillae stretching from the inner surface of the sulci to the bifid apex (Fig. 112A); cymbium lunar-shaped (Figs 112B, 115B); paracymbium 'J'-shaped, narrow (Fig. 112A); distal suprategular apophysis triangular, slightly hooked at tip (Fig. 112B); embolus long and wide, accompanied by convector, following the same route (Figs 112A–B, 115A–B).

Female (one of paratypes). Total length: 1.88. Carapace 0.80 long, 0.63 wide, unmodified, orange. Abdomen pale, with greenish-grey spinnerets and dark patches around them. Sternum 0.47 long, 0.47 wide. Clypeus 0.15 high. Chelicerae promargin and retromargin with 5 teeth. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.06, PLE 0.05, AME-AME/AME 0.75, PME-PME/PME 0.60, AME-ALE/ALE 0.50, PME-PLE/PLE 0.67, Coxae IV separated by 1.54 times their width. Lengths of legs: I 2.94 (0.75, 0.25, 0.81, 0.69, 0.44), II 2.82 (0.75, 0.23, 0.70, 0.70, 0.44), III 2.36 (0.63, 0.23, 0.55, 0.56, 0.39), IV 2.96 (0.80, 0.20, 0.74, 0.74, 0.48). Leg formula: IV-I -II-III. TmI 0.69, TmIV 0.68. Patellar spine formula: 2-2-2-2. Epigyne: scapoid ribbon-like, with a slightly concave tip (Fig. 114A); dorsal plate with an opening at the posterior rim (Fig. 114A–C); copulatory ducts follow a path from the middle to each side, then up to the spermathecae (Fig. 114D); spermathecae elliptical (Fig. 114A).

Distribution. Known only from type localities.

***Vittatus pan* sp. n.**

http://zoobank.org/74E52D87-E9E5-466C-A54B-18F9127707A8

Figs 116–119

Types. Holotype ♂: CHINA, Yunnan: Menglun Town: Xishuangbanna Tropical Botanical Garden, 21°54.772'N, 101°16.043'E, elevation ca 556 m, 18.07.2007, *Paramichelia baillonii* plantation, fogging. Paratypes 2♀, 21°55.035'N, 101°16.500'E, elevation ca 558 m, 22.07.2007, primary tropical seasonal forest, fogging; 5♂1♀, 21°57.809'N, 101°12.173'E, elevation ca 888 m, 4.08.2007, secondary tropical montane evergreen broad-leaved forest, fogging.

Etymology. This name is derived from the Chinese Pinyin 'pán' meaning 'plate', for the broad, plate-like terminal apophysis in this species; noun in apposition.

Diagnosis. It differs from the congener *V. bian* sp. n. by light coloration, much shorter dorsal tibial apophysis (Fig. 117A), prominent and broad branch of radical apophysis (Fig. 117B) and short scape (as long as wide).

Description. Male (holotype). Total length: 1.56. Carapace 0.69 long, 0.59 wide, yellow, PME area elevated to form a lobe, post-ocular sulci stretching along base of lobe laterally (Fig. 53E). Sternum 0.44 long, 0.44 wide. Clypeus 0.15 high. Eye sizes and

interdistances: AME 0.06, ALE 0.08, PME 0.06, PLE 0.08, AME-AME/AME 0.50, PME-PME/PME 0.50, AME-ALE/ALE 0.50, PME-PLE/PLE 1.13, coxae IV separated by 2.00 times their width. Length of legs: I 2.83 (0.75, 0.19, 0.75, 0.71, 0.43), II 2.88 (0.75, 0.23, 0.75, 0.70, 0.45), III 2.22 (0.61, 0.17, 0.55, 0.55, 0.34), IV 2.67 (0.73, 0.17, 0.67, 0.69, 0.41). Leg formula: II-I-IV-III. TmI 0.54, TmIV 0.51. Abdomen pale, with a small black patch posteriorly (Fig. 117C). Palp: tibia with two retrolateral one dorsal trichobothria, a row of setae retrolaterally (Fig. 116B) and two tibial apophyses, ventral and dorsal; dorsal apophysis short, and scale-like, with a bent tip (Figs 116B, 117A); ventral apophysis short and stout with a rounded tip (Fig. 116A); paracymbium 'J'-shaped, with a leaf-shaped apex (Fig. 116B); radical apophysis with two prominent branches, one stretching along the cymbium, broad and slightly bent distally (Fig. 116A), the other smaller with an attenuated tip (Fig. 116B); convector long, sigmoid (Fig. 116B).

Female (one of paratypes). Total length: 1.50. Carapace 0.63 long, 0.55 wide, unmodified, yellow. Sternum 0.41 long, 0.45 wide. Clypeus 0.09 high. Chelicerae promargin with 4 teeth, retromargin with 4 teeth. Eye sizes and interdistances: AME 0.06, ALE 0.07, PME 0.06, PLE 0.07, AME-AME/AME 0.33, PME-PME/PME 0.17, AME-ALE/ALE 0.23, PME-PLE/PLE 0.33, coxae IV separated by 1.92 times their width. Length of legs: I 2.67 (0.72, 0.22, 0.68, 0.65, 0.40), II 2.64 (0.70, 0.20, 0.64, 0.68, 0.42), III 2.26 (0.63, 0.19, 0.55, 0.55, 0.34), IV 2.81 (0.78, 0.22, 0.70, 0.70, 0.41). Leg formula: IV-I-II-III. TmI 0.80, TmIV 0.70. Abdomen light yellow, with dark spinnerets. Epigyne: ventral plate wide, with arc-like posterior margin (Figs 118A, 119C); scapoid short, tongue-shaped, as long as wide; dorsal plate wide; copulatory ducts short (Figs 118C, 119D); spermathecae round, separated by 2.5 diameters (Fig. 118B); fertilization ducts relatively long (Fig. 118B).

Distribution. Known only from type localities.

Discussion

The process of matching the sexes of the Xishuangbanna linyphiids collected from the forest canopy is arduous, especially with the occurrence of similar habitus and conformation of epigynes (Figs 46, 62, 99). In order to solve this problem, we conducted molecular work to obtain DNA sequence barcodes of COI from freshly collected linyphiid spiders (mostly from canopies), and constructed a Neighbor-joining tree. The pairing results are shown in Figure 121.

We have described some new species based on only one sex, which is an unconventional act. However, we feel reasonably certain that our conclusions are generally valid and taxonomically informative. While there may be errors in the identification of some species, finding the other sex of monotypic species will take much time and effort, and we believe it is best to share our information as soon as possible. Further investigations should be conducted in Xishuangbanna and neighboring places. More new discoveries will definitely benefit our understanding of the systematics of the linyphiids from Southeast Asia.

Plates

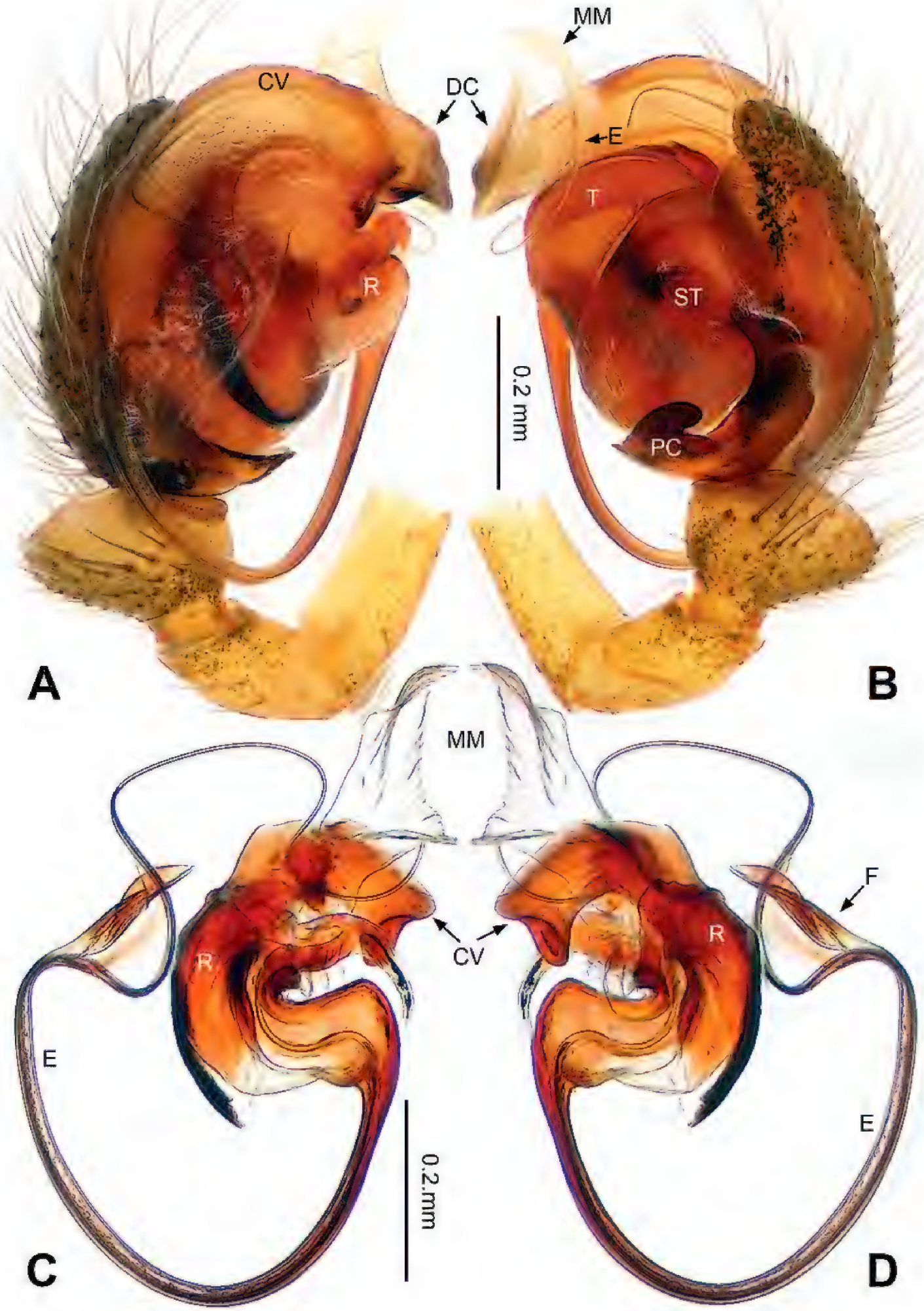


Figure 1. *Asiagone perforata*. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, ventral view **D** Embolic division, dorsal view. Scale bars: **A** as **B**, **D** as **C**.

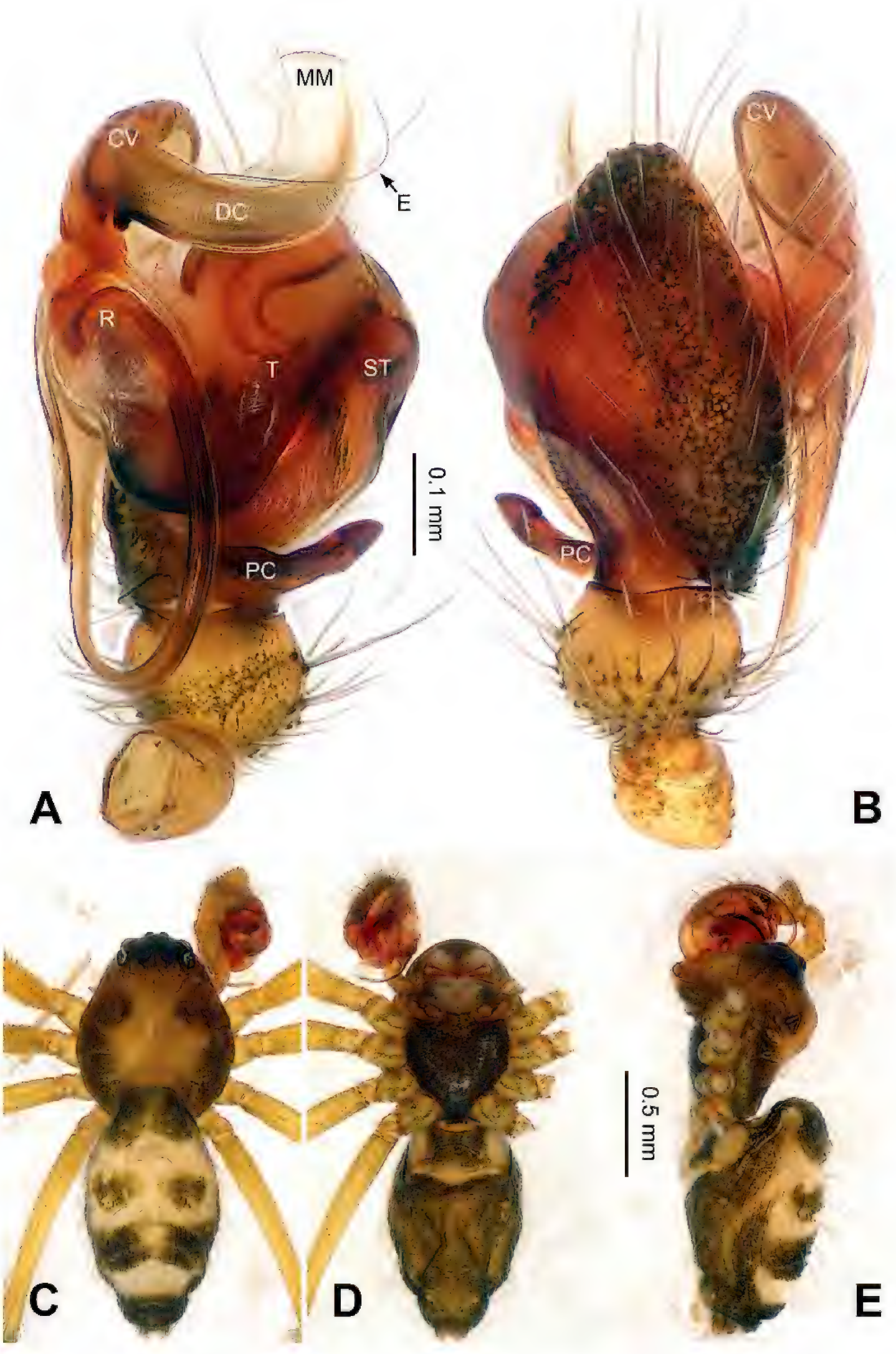


Figure 2. *Asiagone perforata.* **A** Palp, ventral view **B** Palp, dorsal view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **D** as **E**.

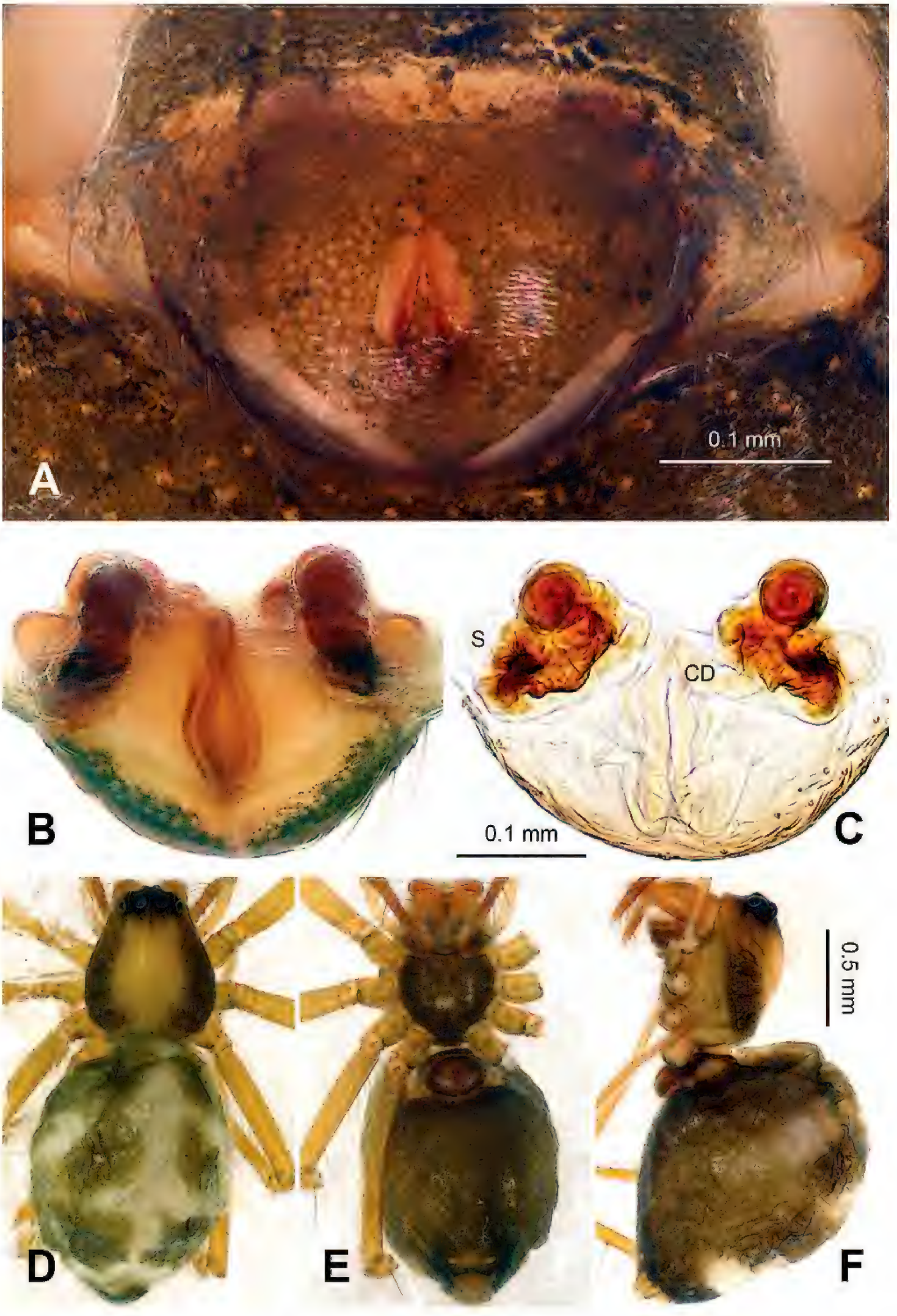


Figure 3. *Asiagone perforata.* **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **D** and **E** as **F**.

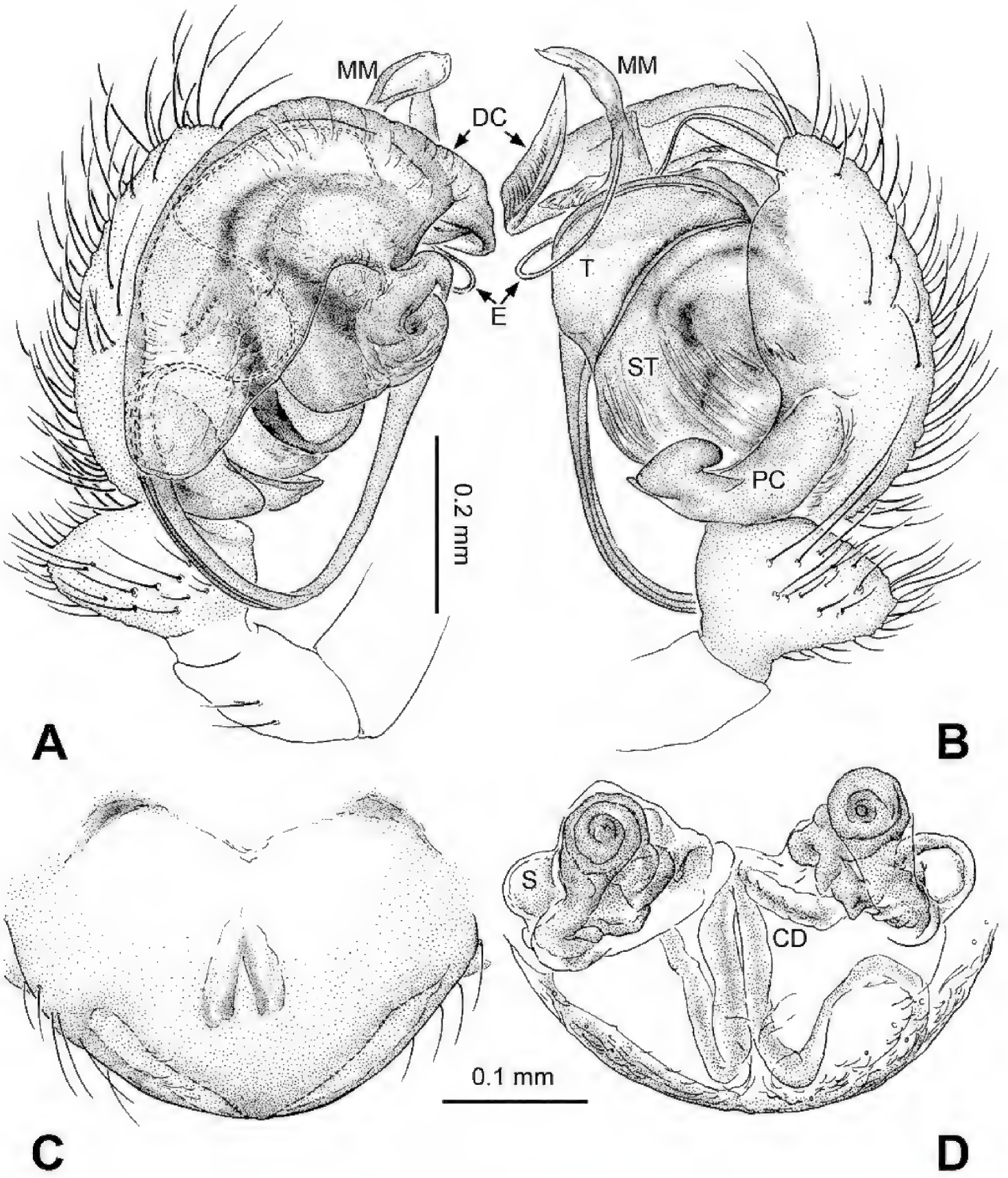


Figure 4. *Asiagone perforata.* **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **B** as **A**, **C** as **D**.

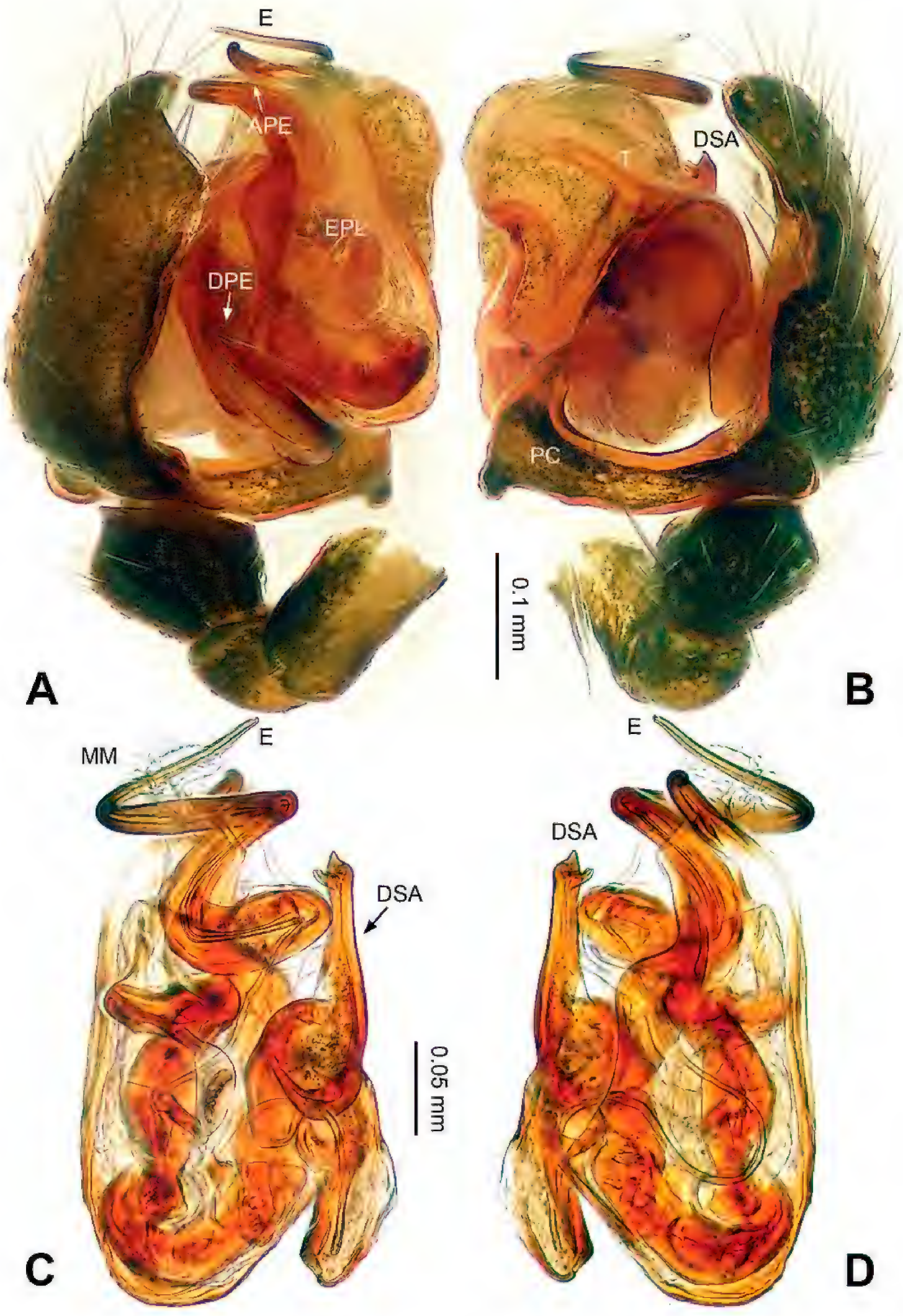


Figure 5. *Bathyphantes paracymbialis.* **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, ventral view. Scale bars: **A** as **B**, **D** as **C**.

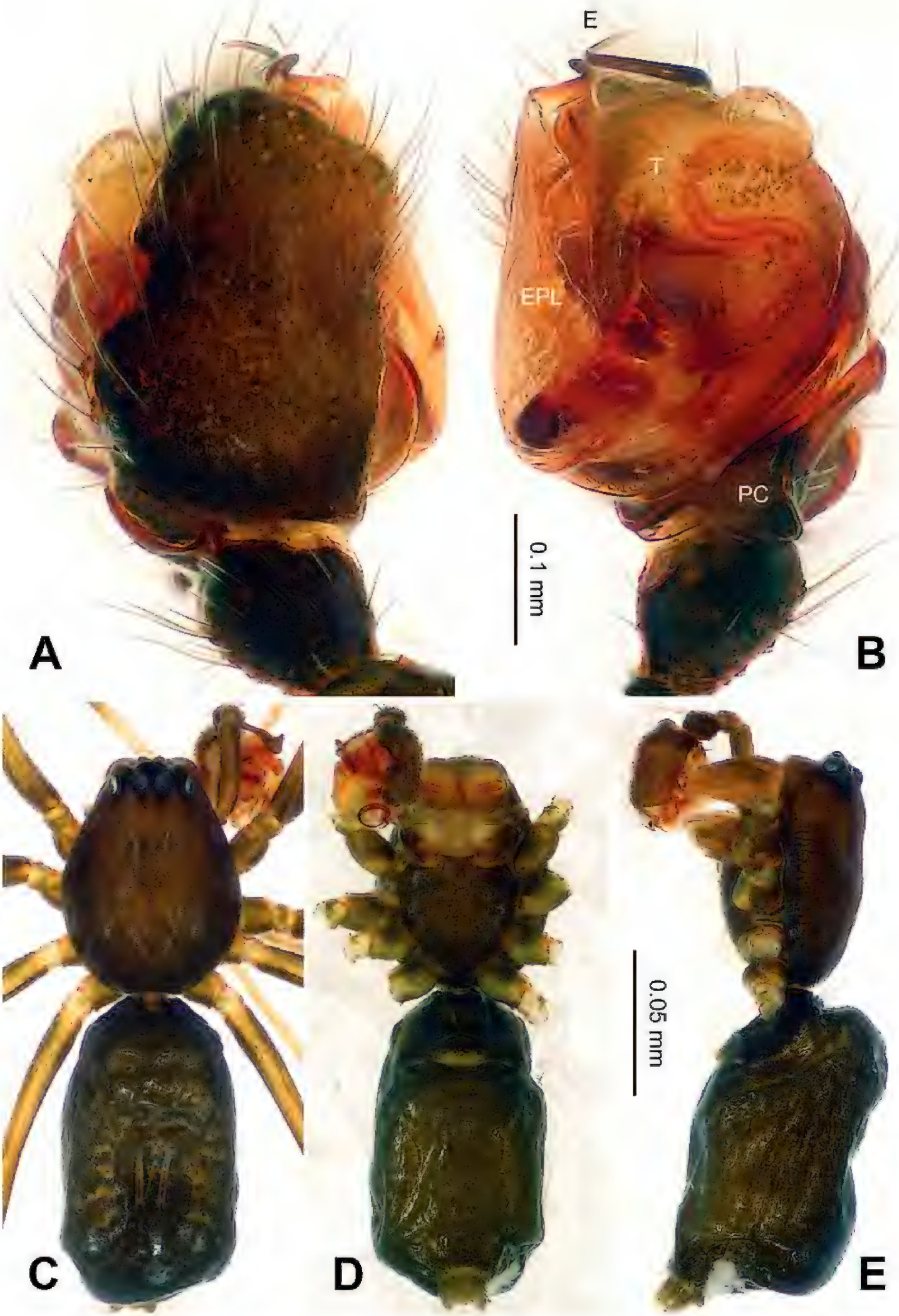


Figure 6. *Bathyphantes paracymbialis.* **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **D** as **E**.

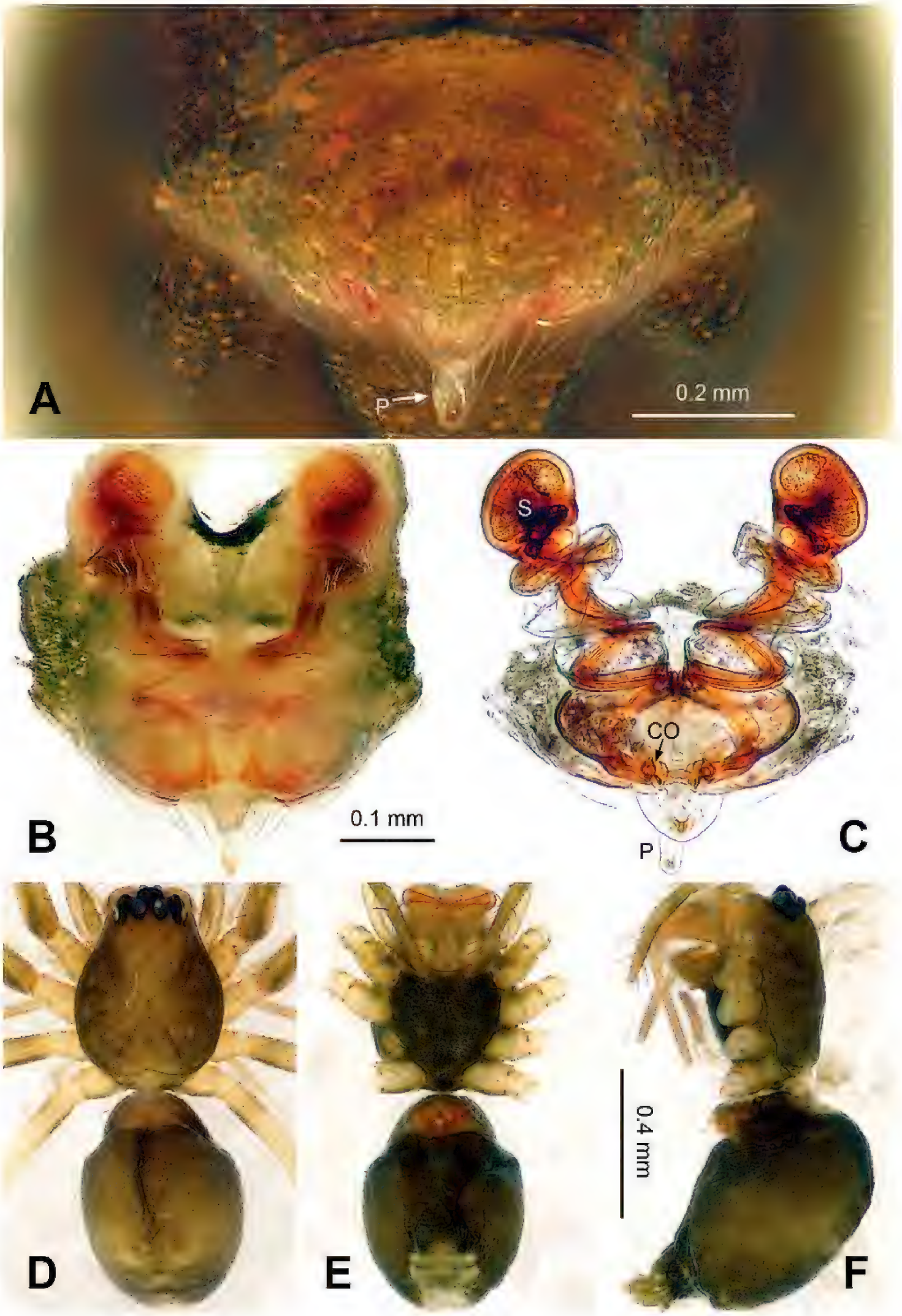


Figure 7. *Bathyphantes paracymbialis.* **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

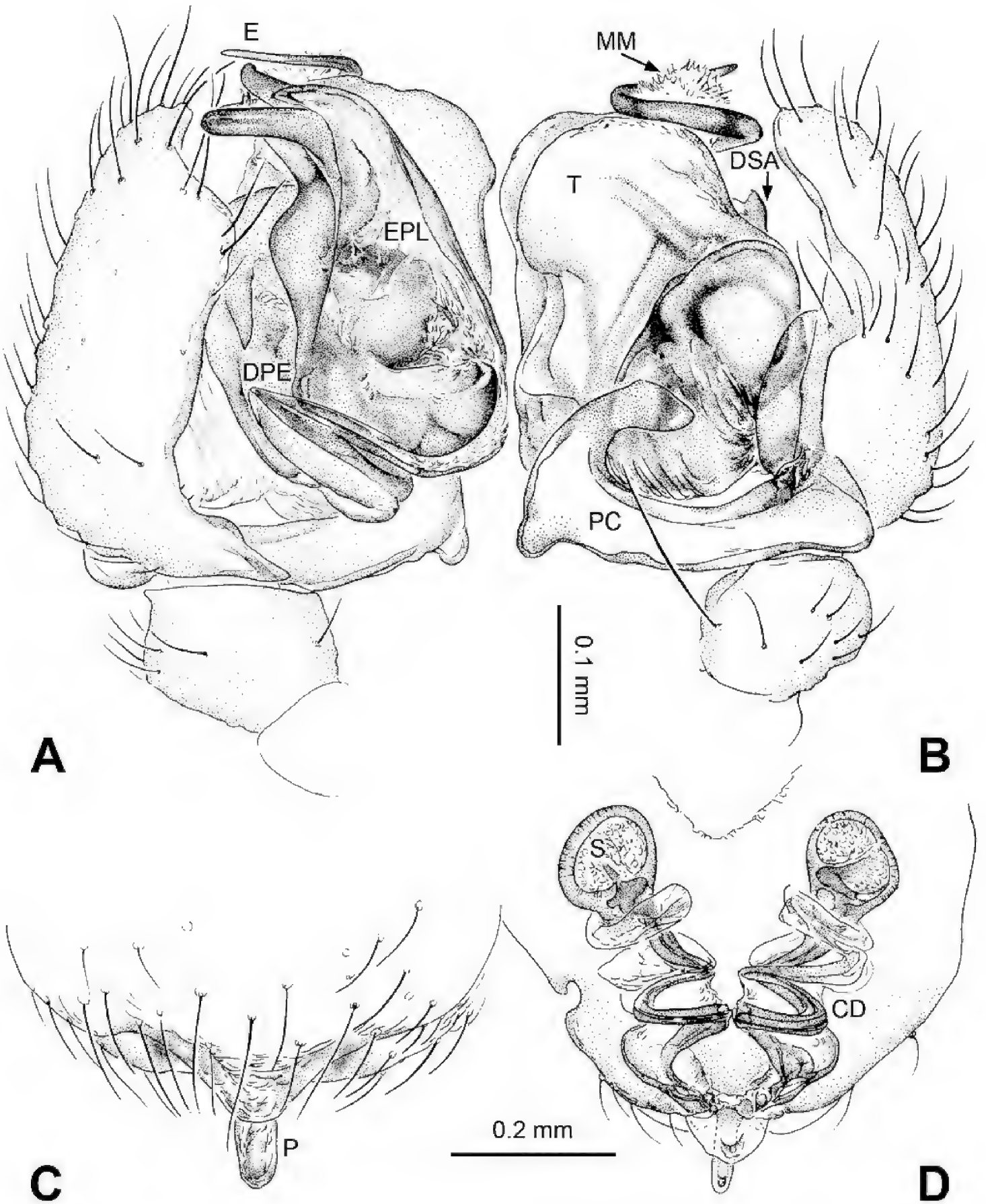


Figure 8. *Bathyphantes paracymbialis.* **A** palp, prolateral view **b** palp, retrolateral view **c** epigyne, ventral view **d** vulva, dorsal view. Scale bars: **A** as **B**, **C** as **D**.

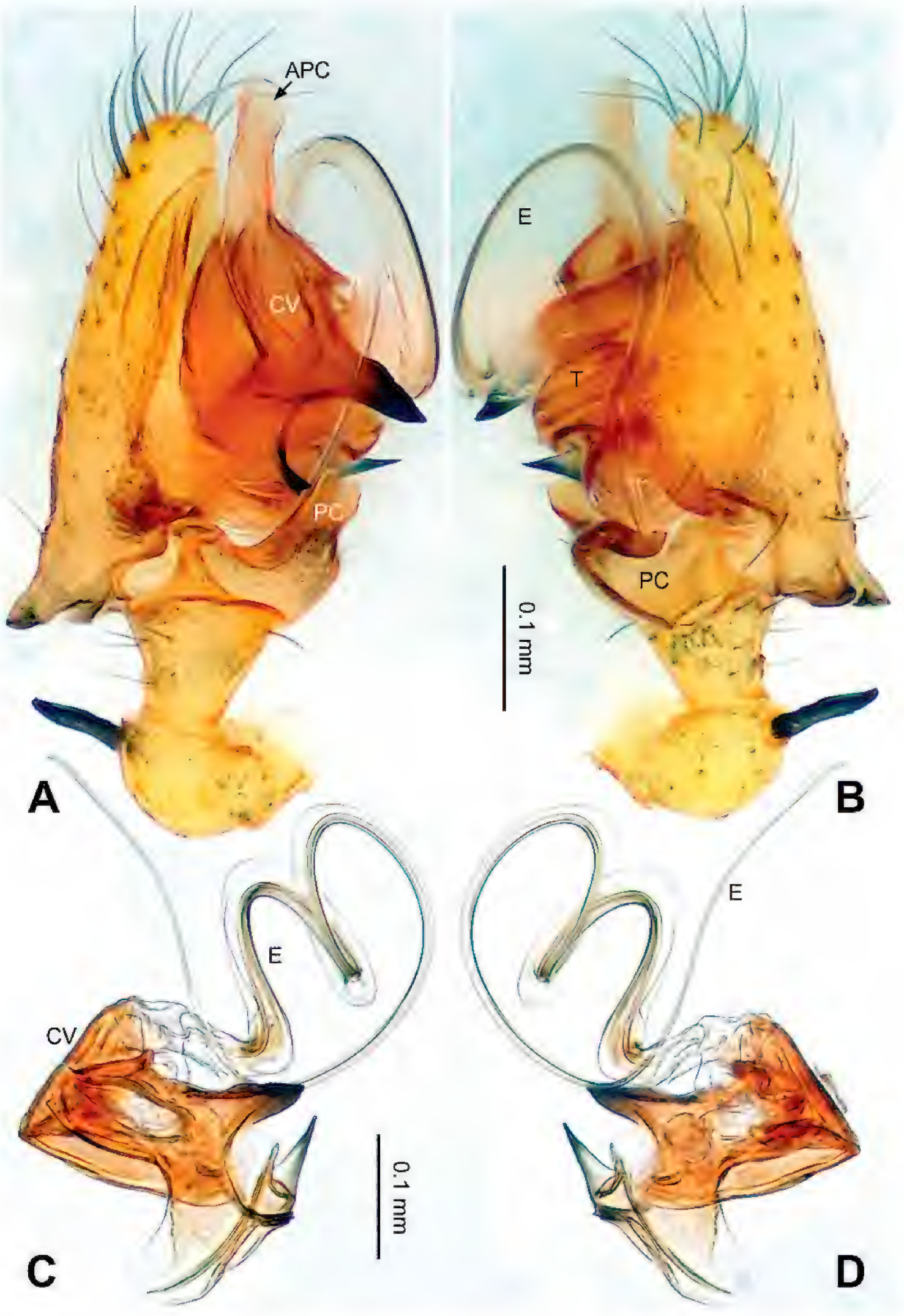


Figure 9. *Batueta cuspidata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, prolateral view **D** Embolic division, retrolateral view. Scale bars: **A** as **B**, **D** as **C**.

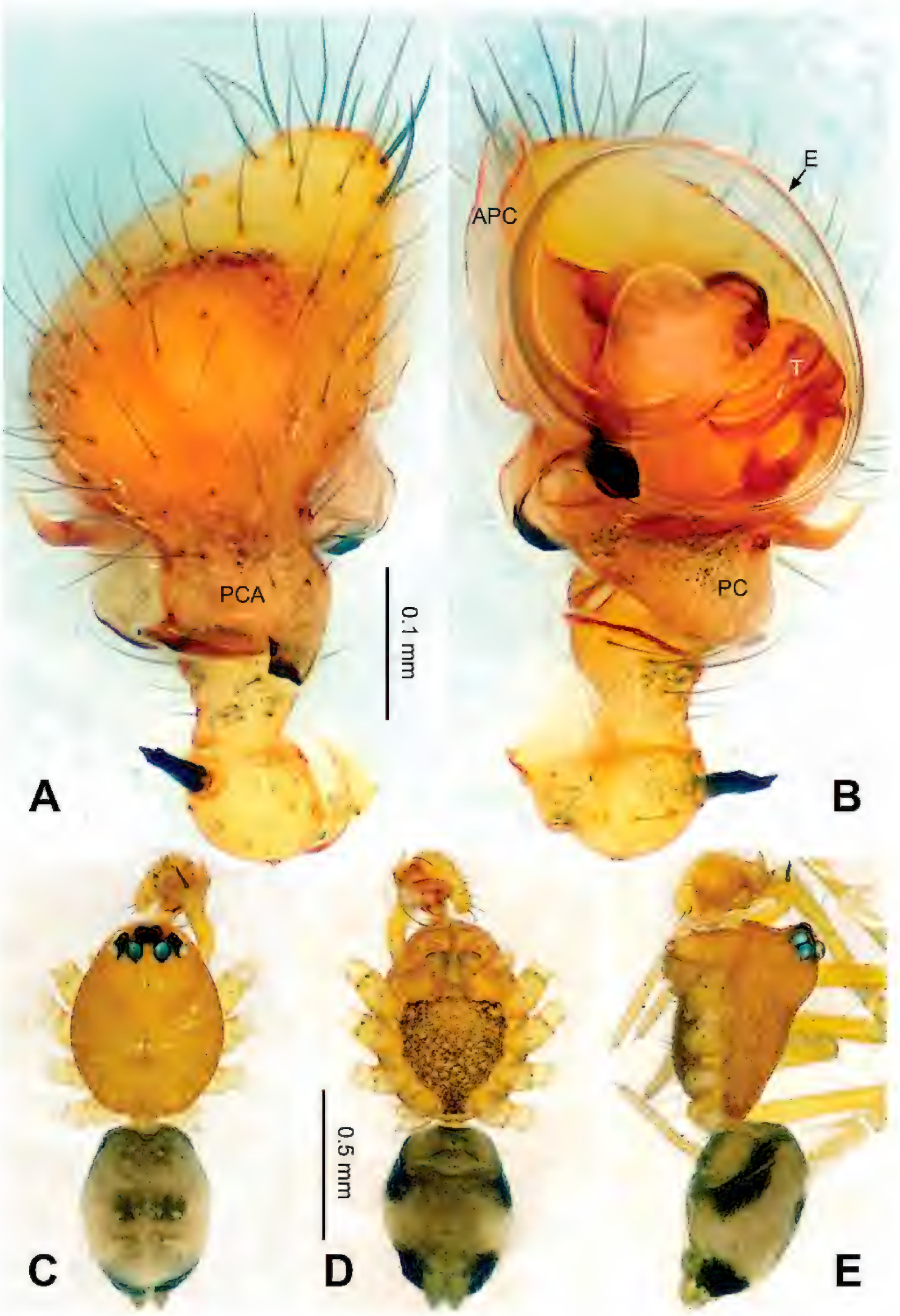


Figure 10. *Batueta cuspidata* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **E** as **D**.

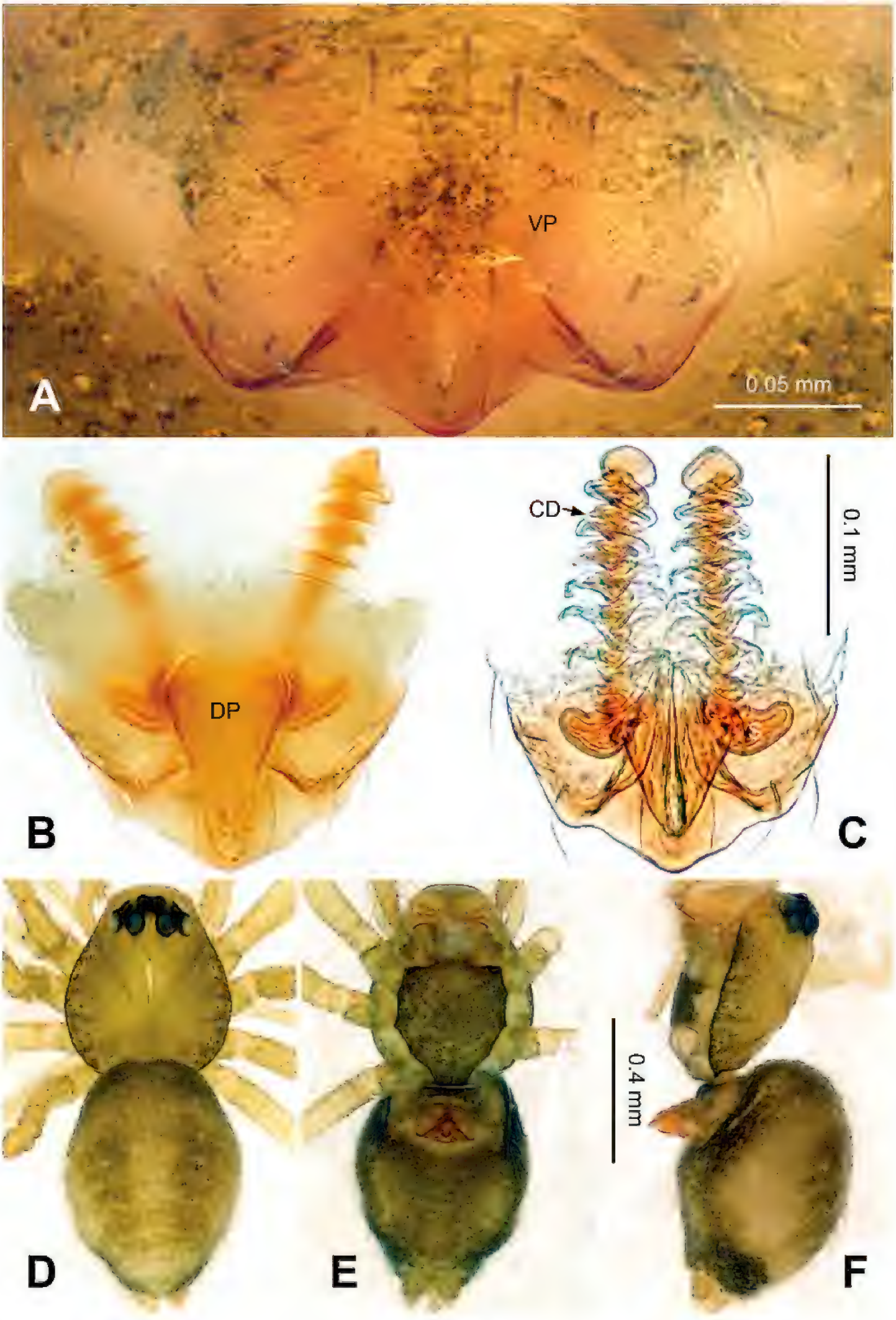


Figure 11. *Batueta cuspidata* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **D** and **E** as **F**.

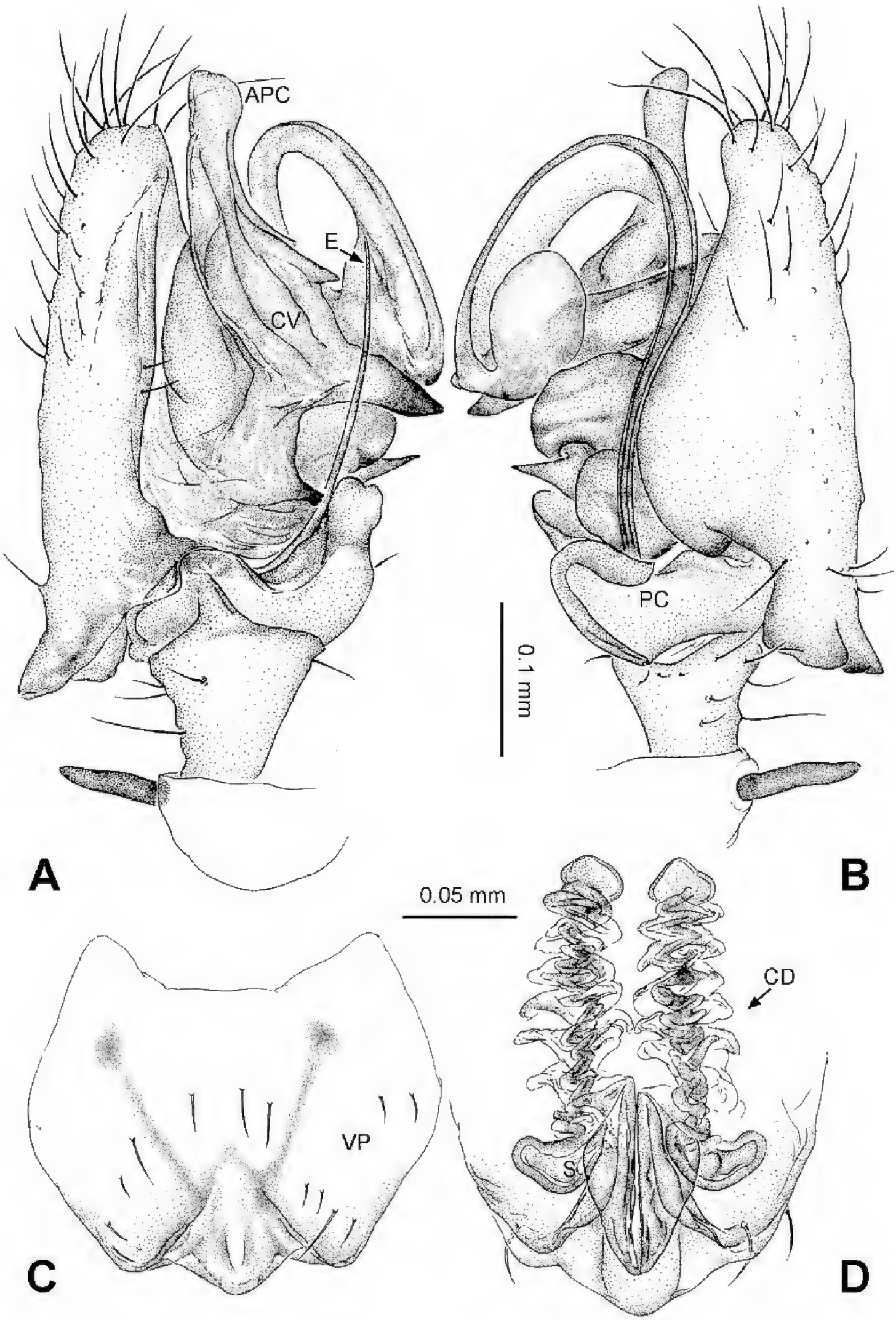


Figure 12. *Batueta cuspidata* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **A** as **B**, **C** as **D**.

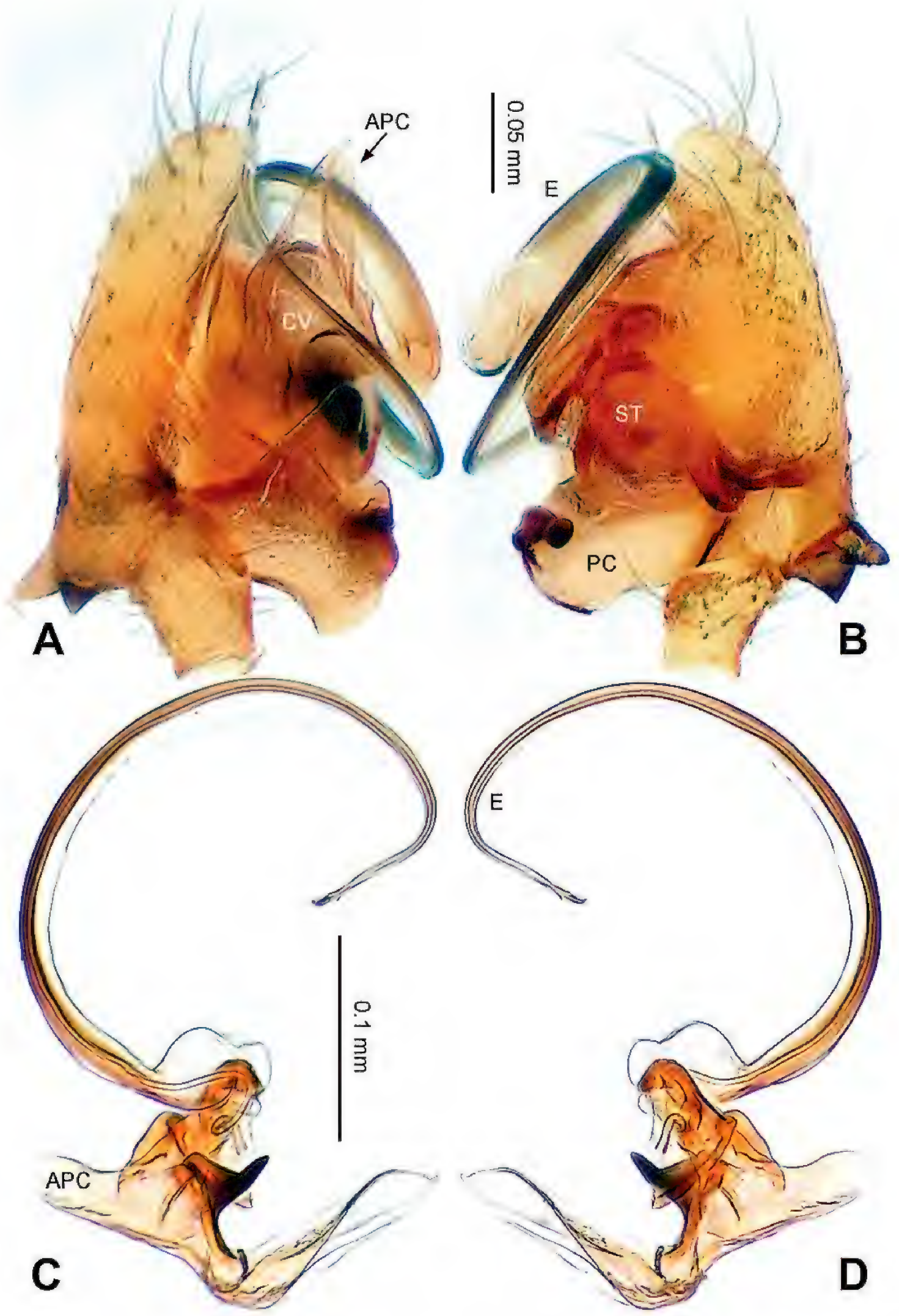


Figure 13. *Batueta similis.* **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, prolateral view **D** Embolic division, retrolateral view. Scale bars: **A** as **B**, **D** as **C**.

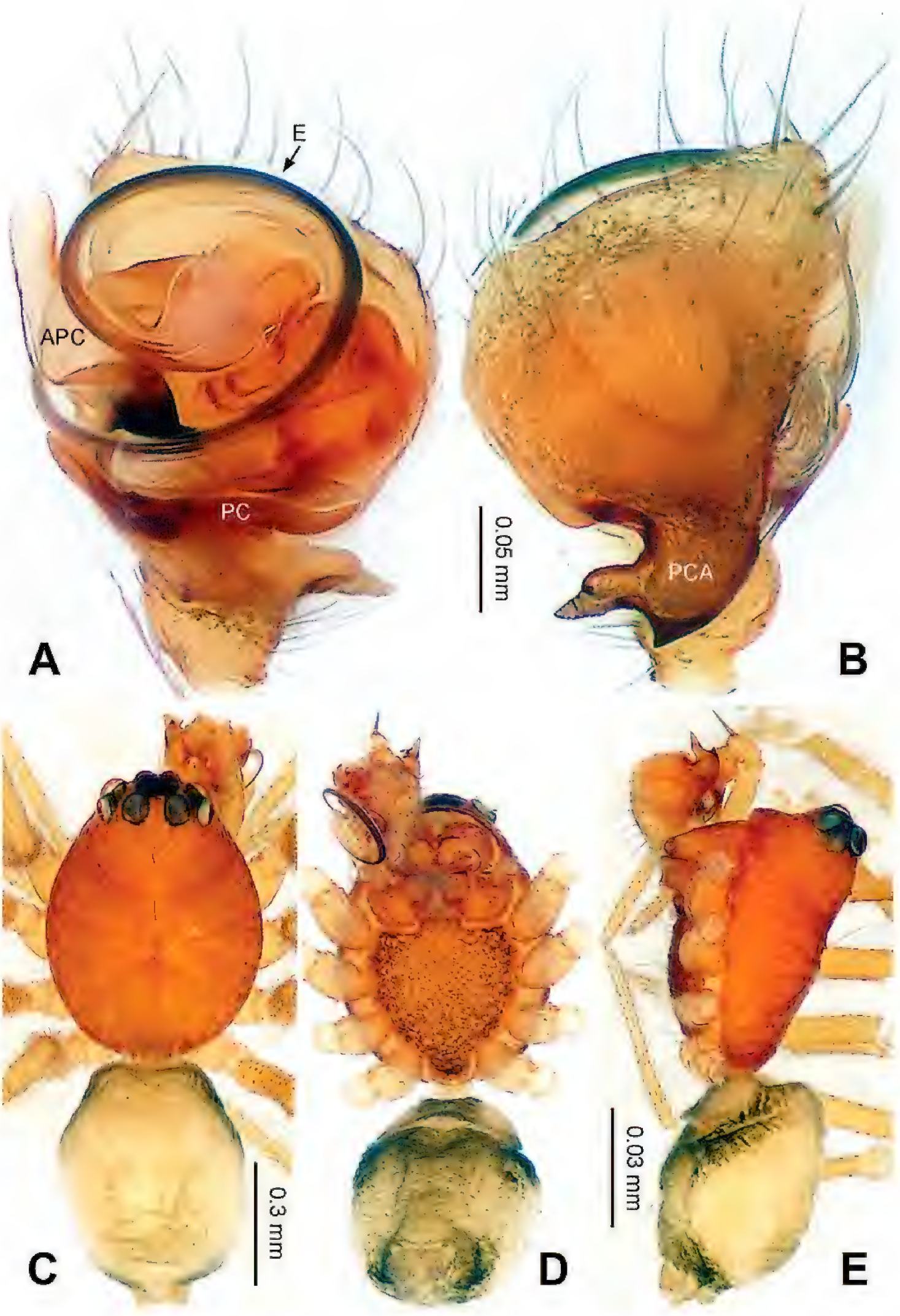


Figure 14. *Batueta similis.* **A** Palp, ventral view **B** Palp, dorsal view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **D** as **C**.

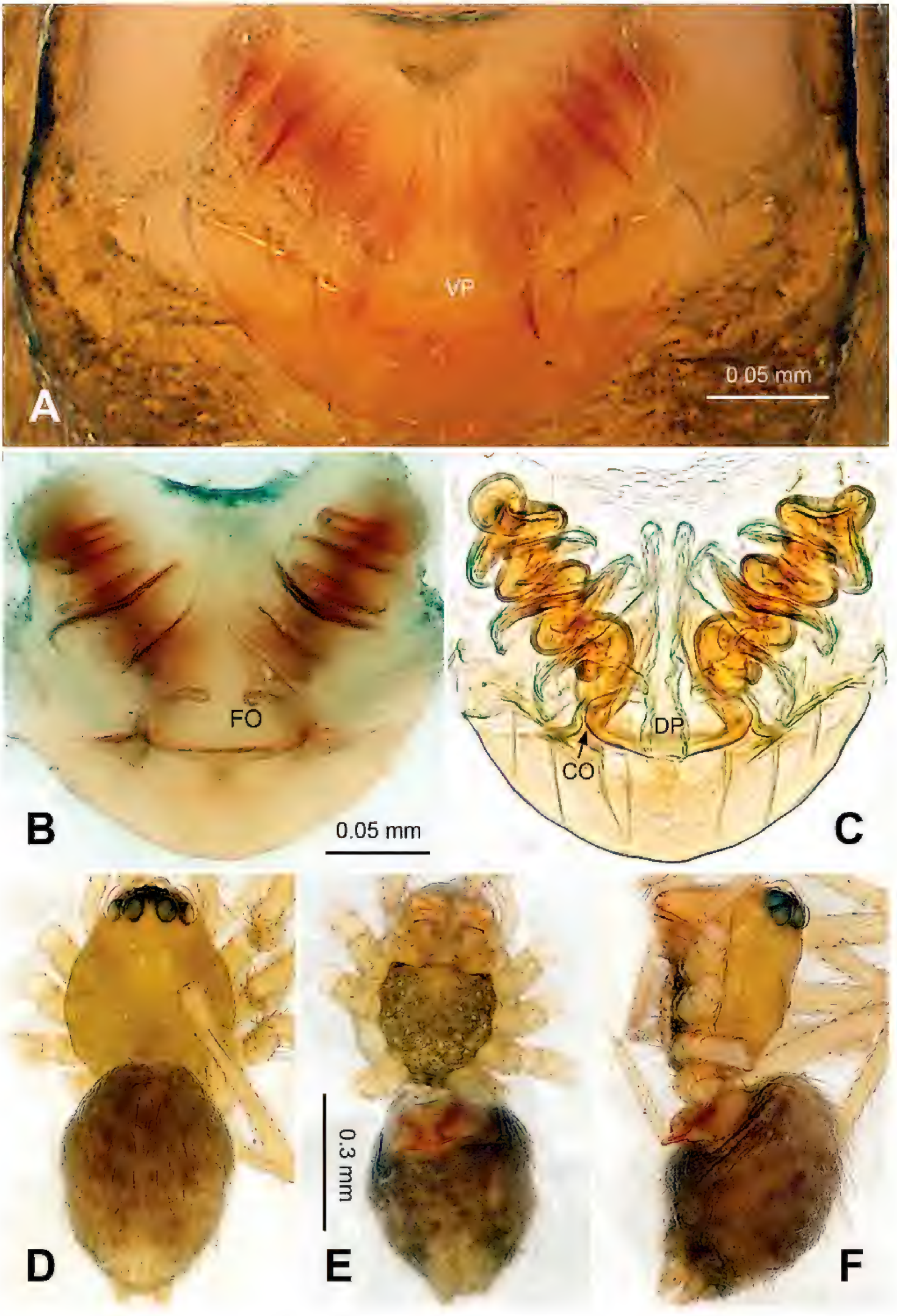


Figure 15. *Batueta similis*. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **F** as **E**.

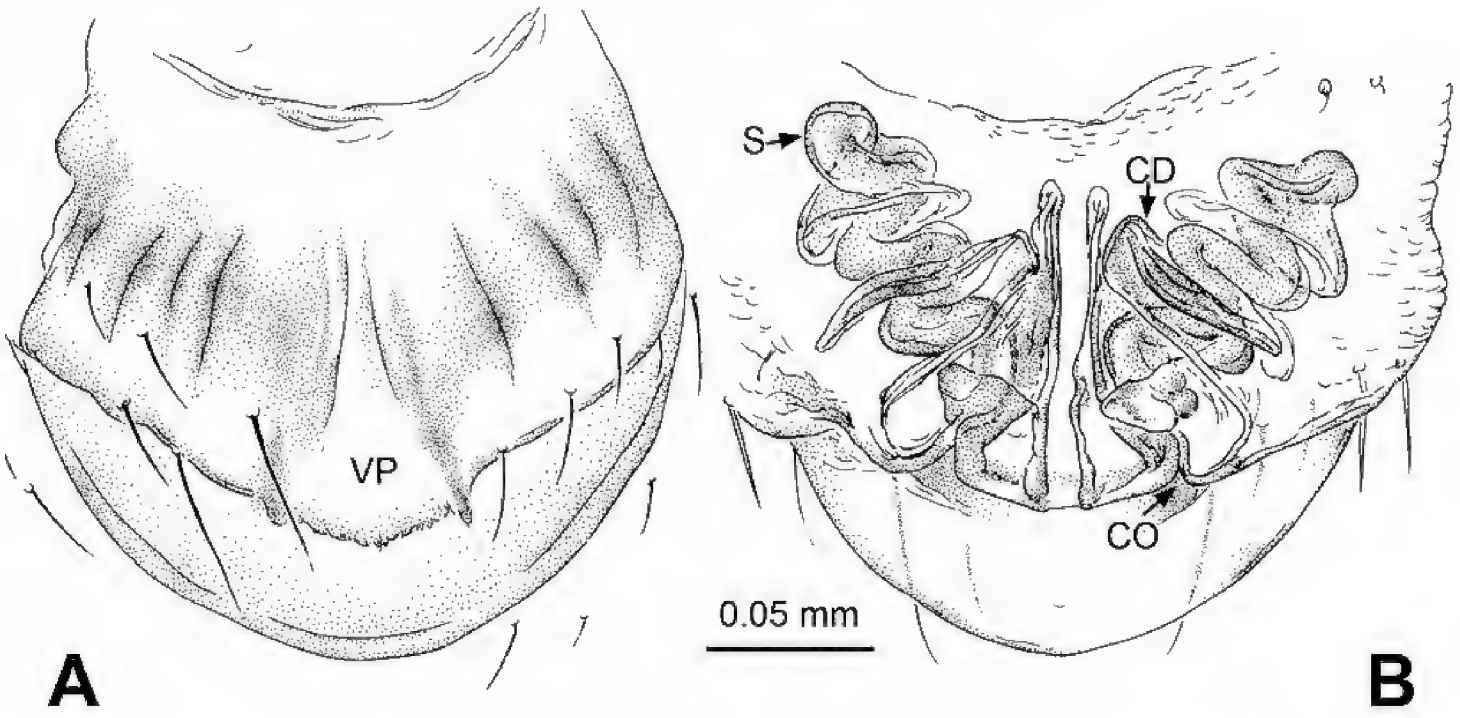


Figure 16. *Batueta similis.* **A** Epigyne, ventral view **B** Vulva, dorsal view Scale bar: **A** as **B**.

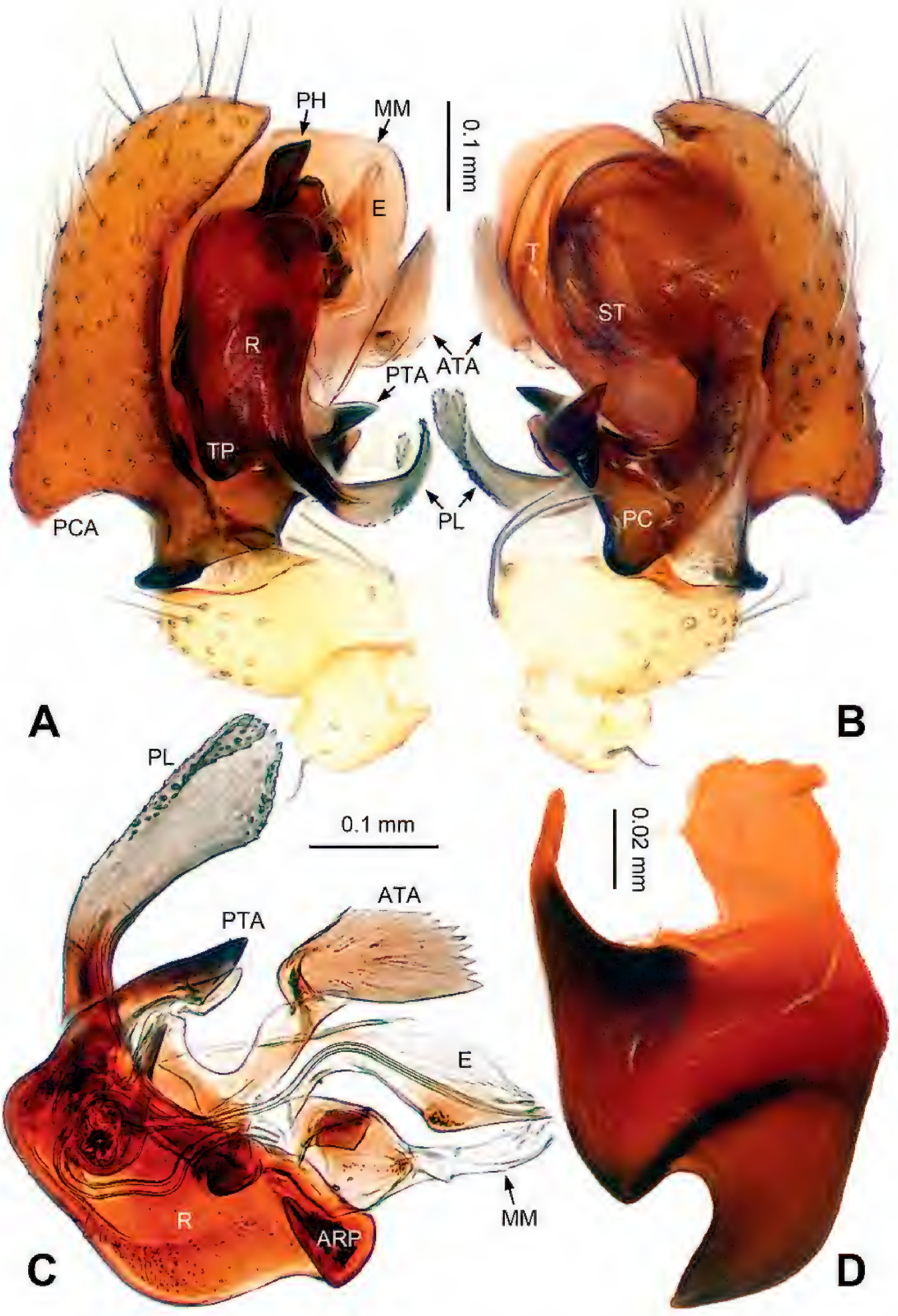


Figure 17. *Capsulia laciniosa* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, ventral view **D** distal part of suprategulum, ventral view. Scale bars: **A** as **B**.

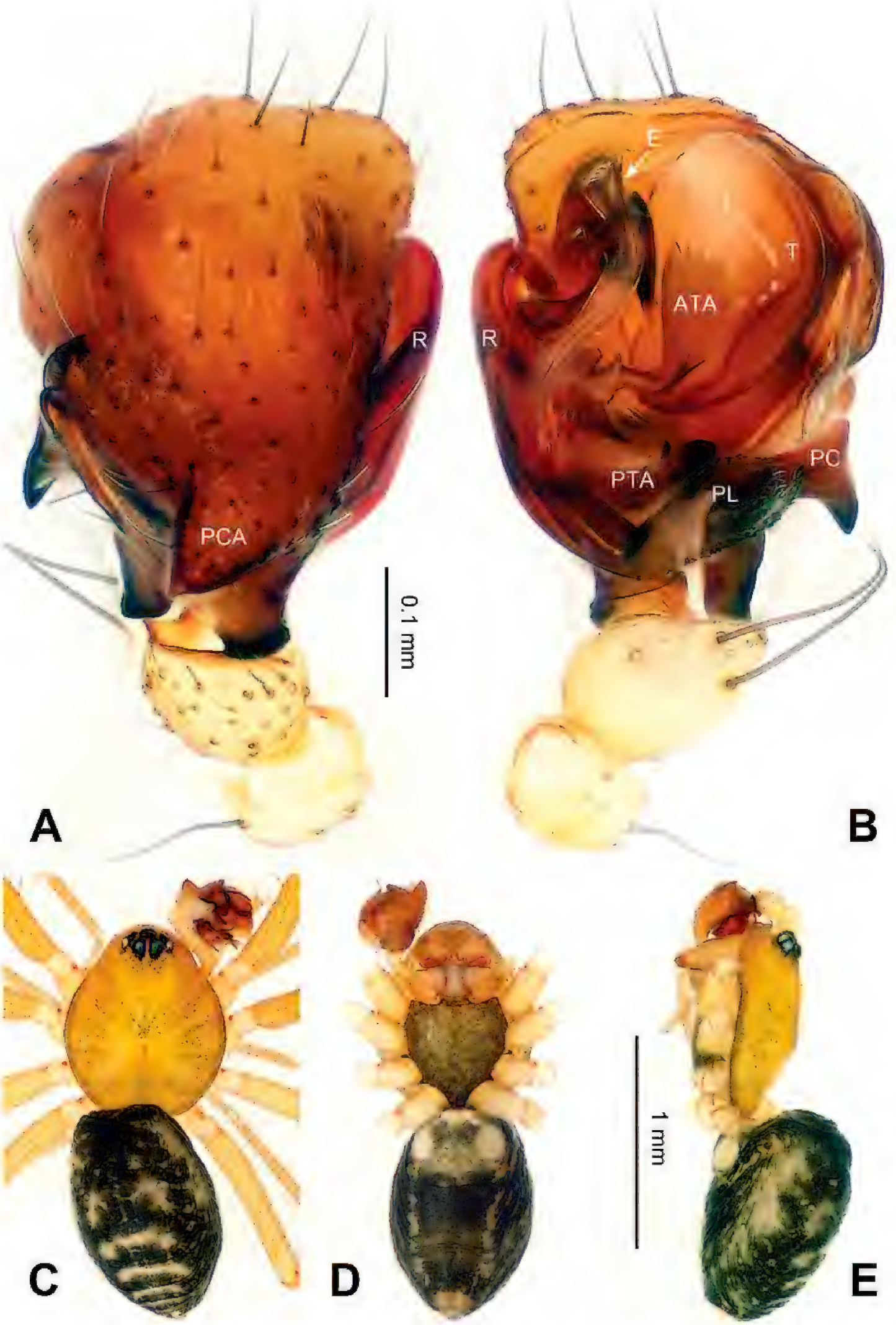


Figure 18. *Capsulia laciniosa* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **D** as **E**.

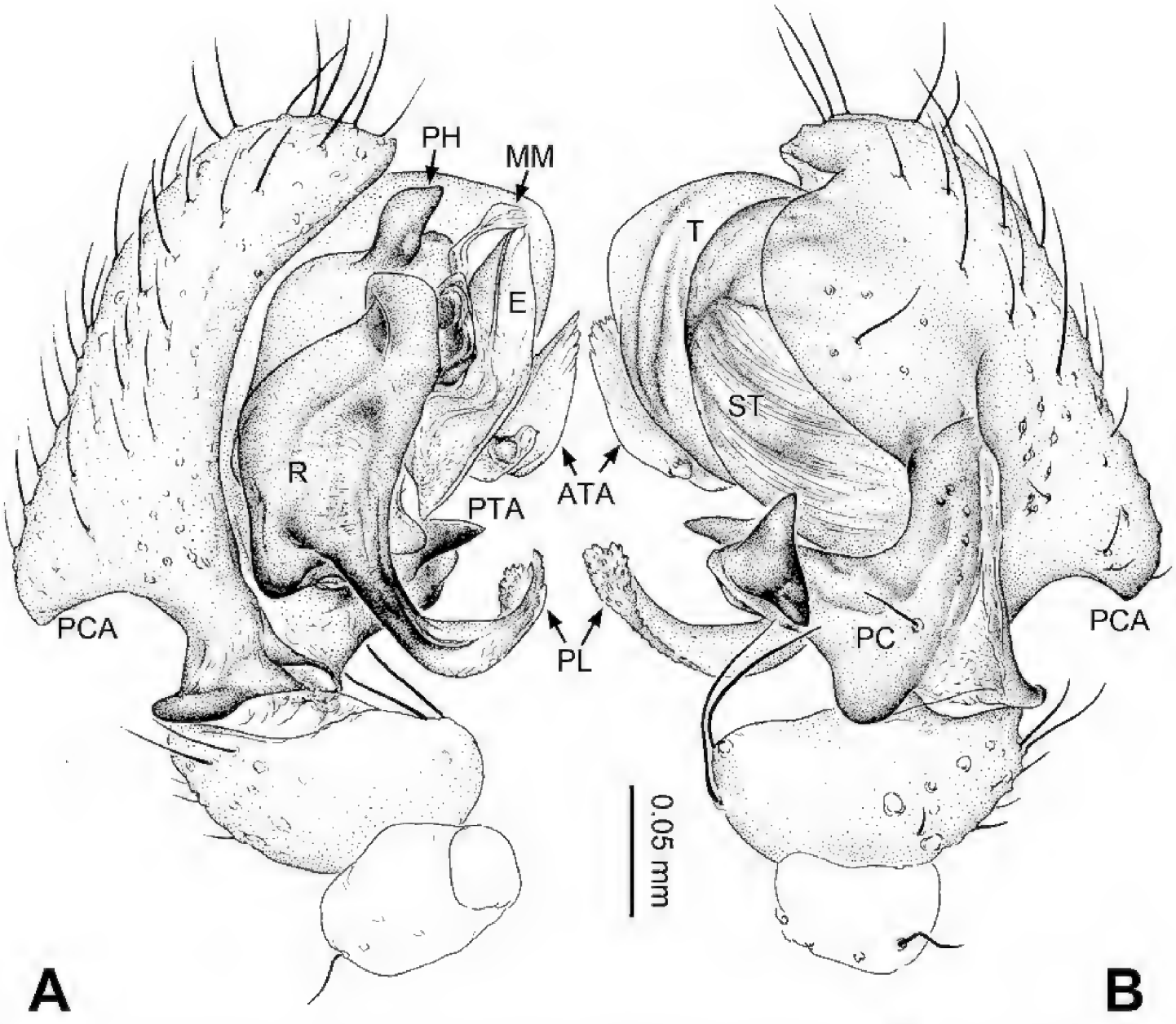


Figure 19. *Capsulia laciniosa* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **A** as **B**.

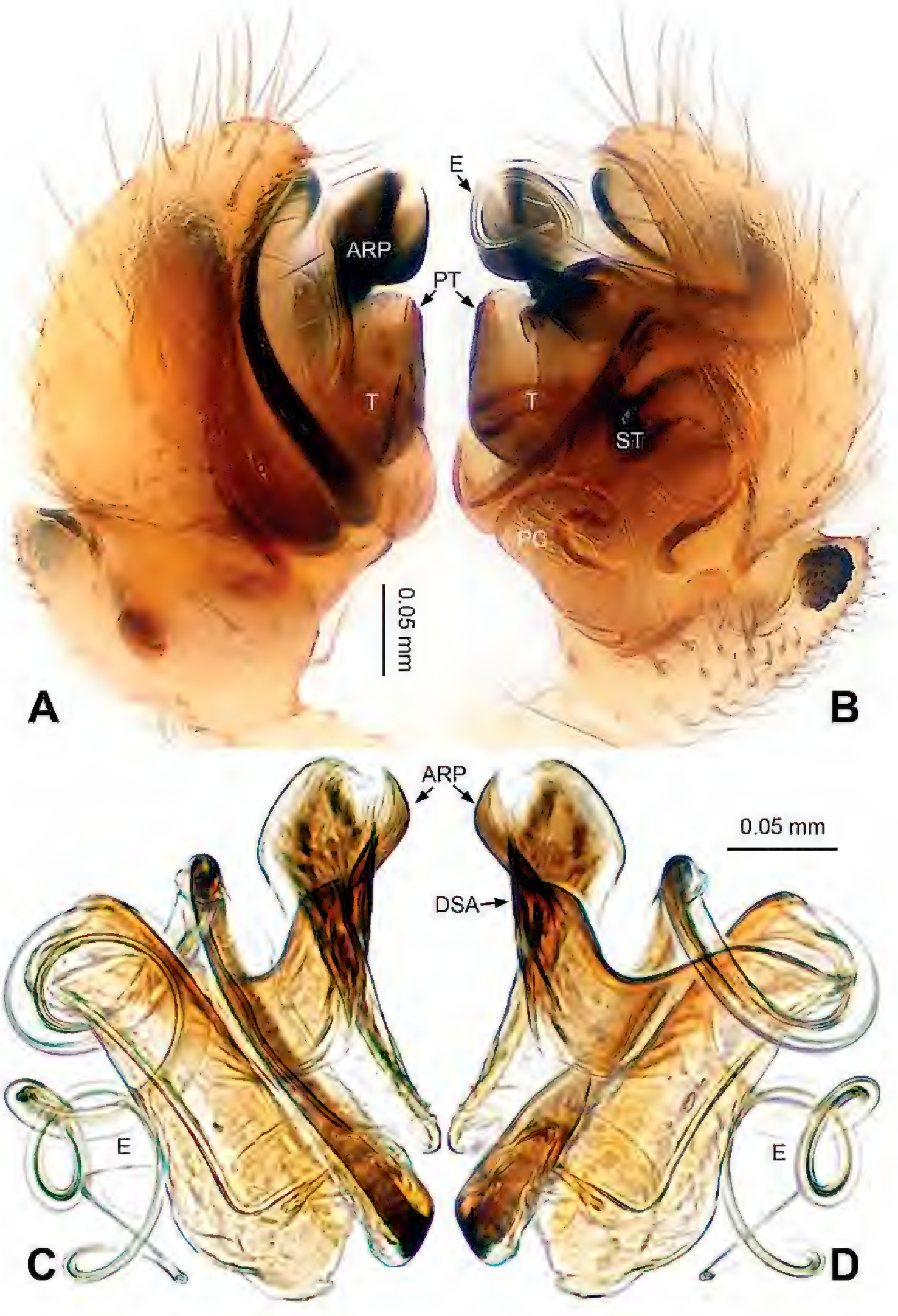


Figure 20. *Cirrosus atrocaudatus* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, prolateral view **D** Embolic division, retrolateral view. Scale bars: **B** as **A**, **C** as **D**.

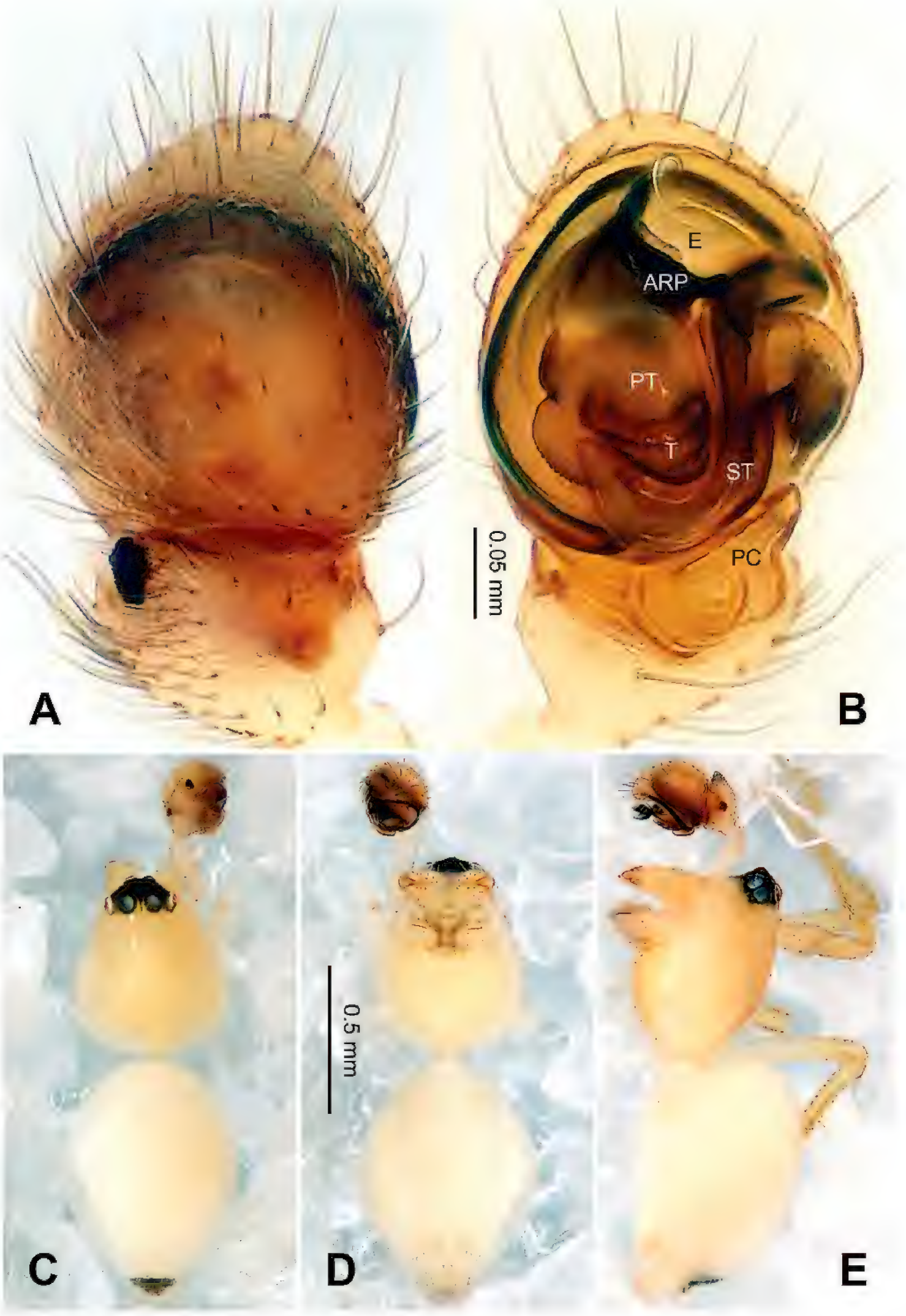


Figure 21. *Cirrosus atrocaudatus* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **E** as **D**.

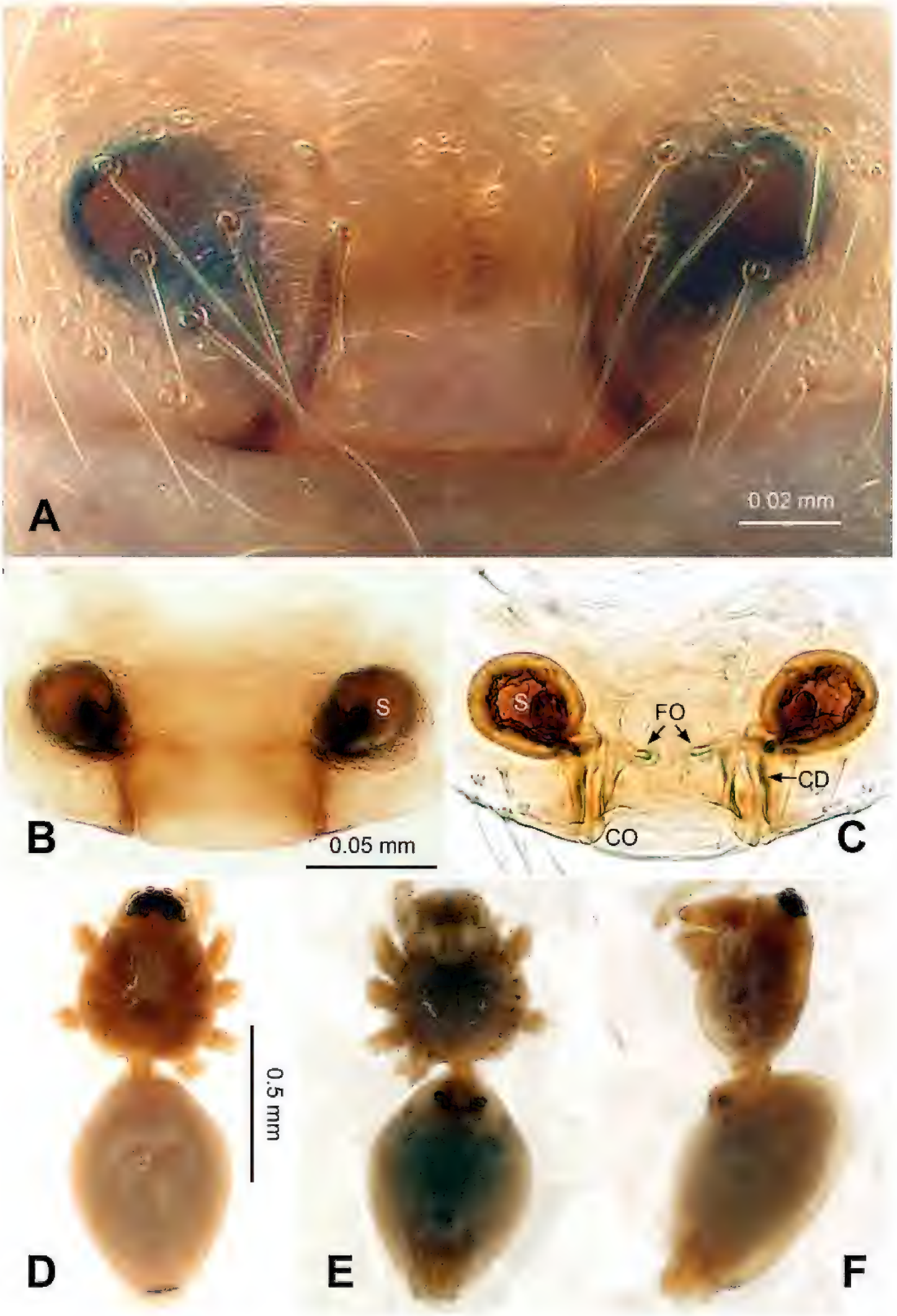


Figure 22. *Cirrosus atrocaudatus* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **E** and **F** as **D**.

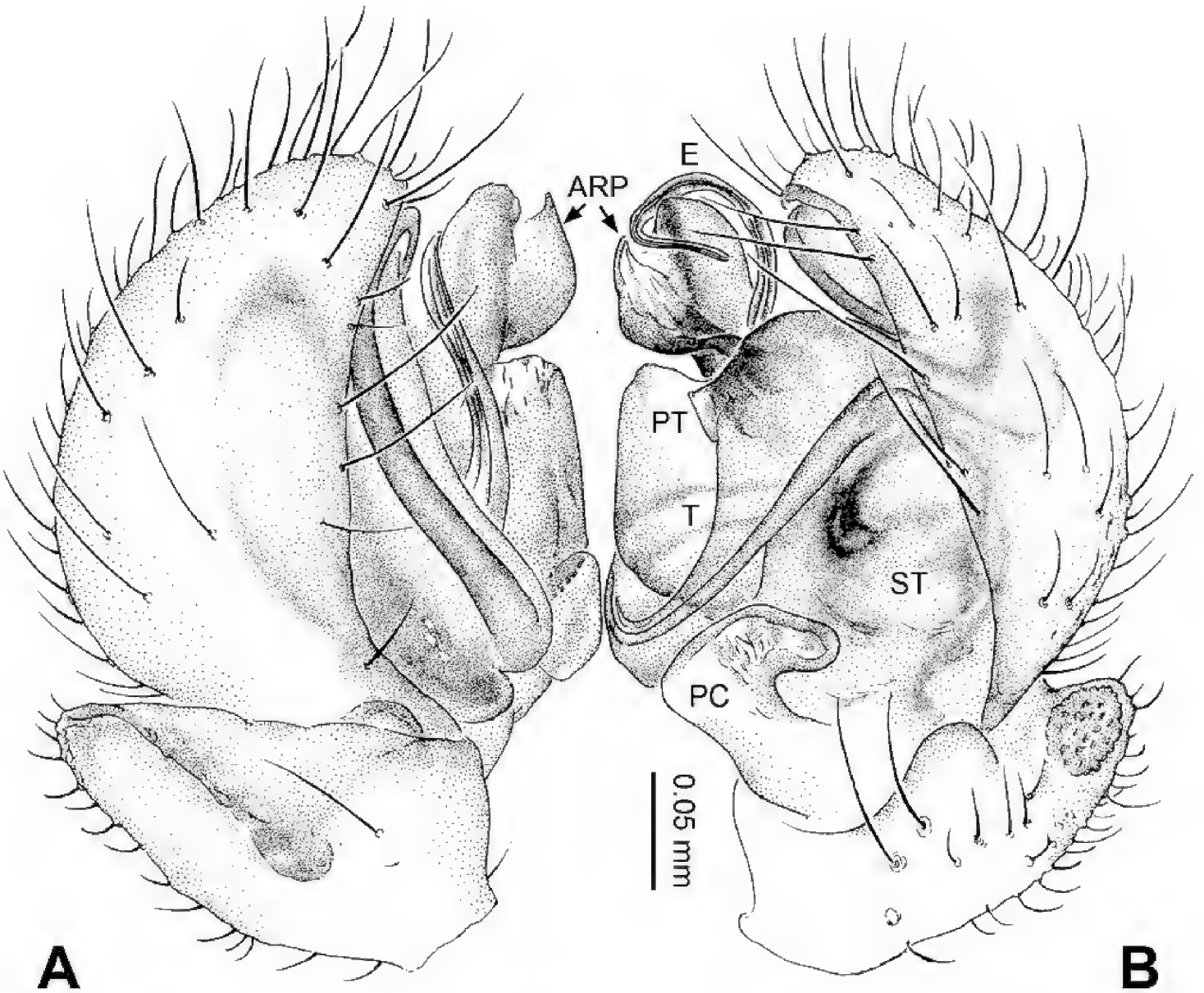


Figure 23. *Cirrosus atrocaudatus* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **A** as **B**, **C** as **D**.

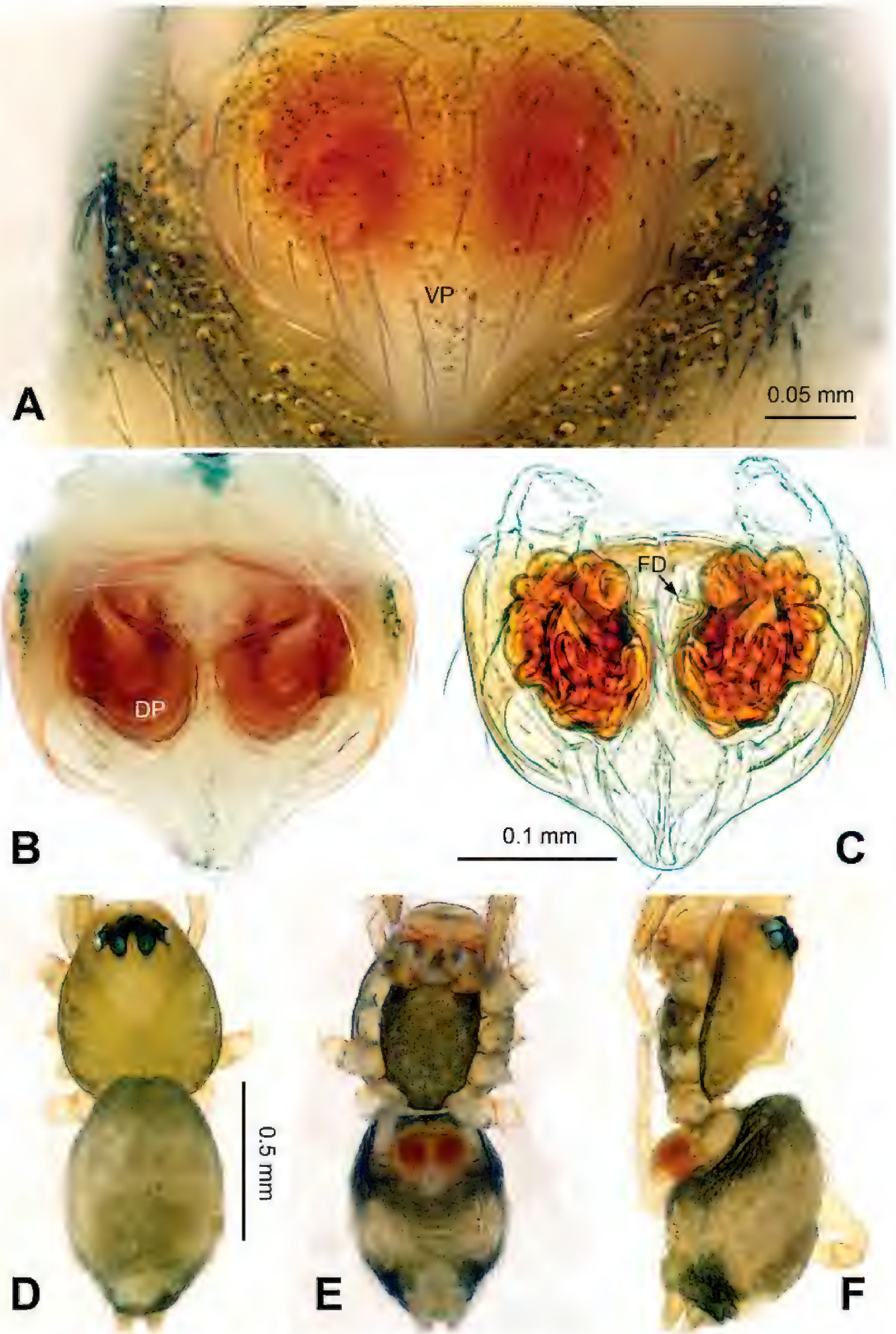


Figure 24. *Conglin personatus* sp. n., female holotype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **E** and **F** as **E**.

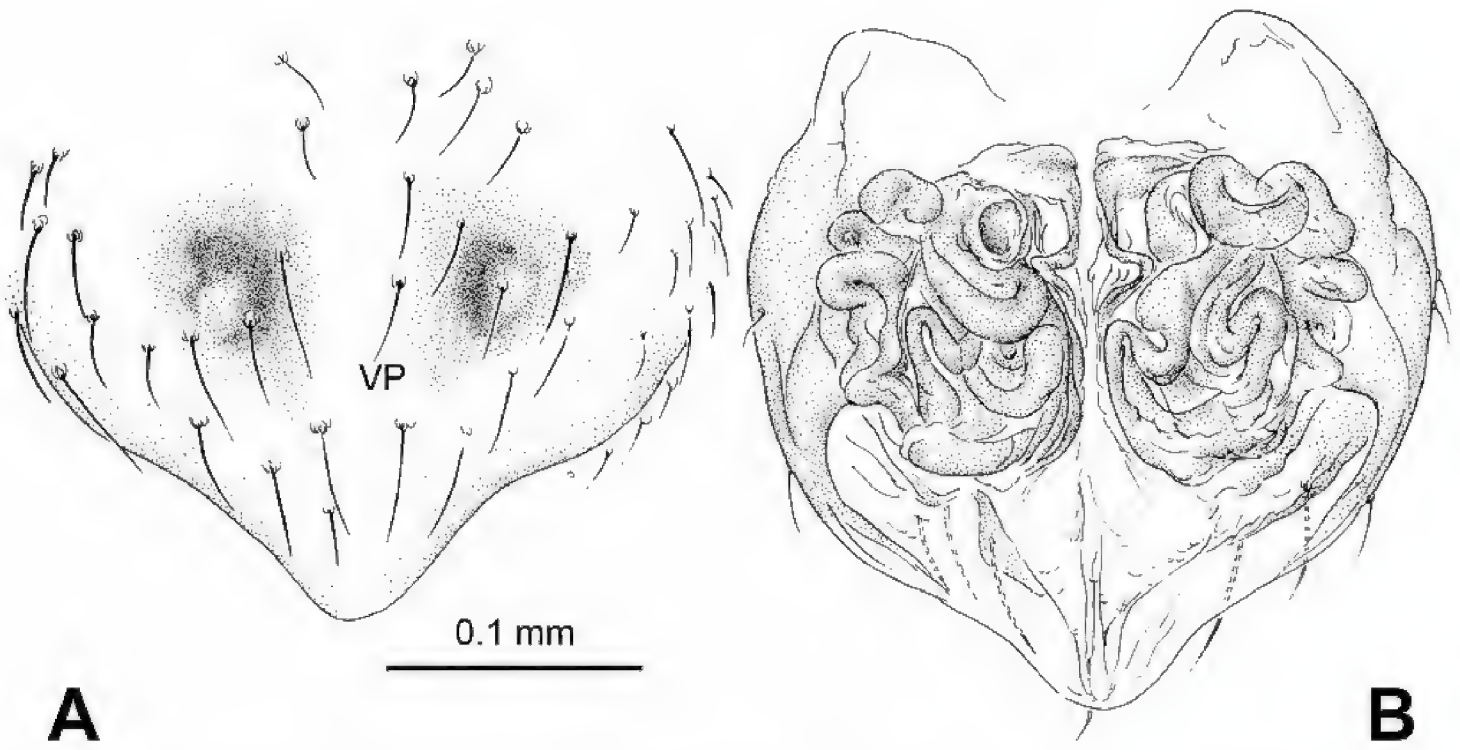


Figure 25. *Conglin personatus* sp. n., female holotype. **A** Epigyne, ventral view **B** Vulva, dorsal view Scale bar: **B** as **A**.

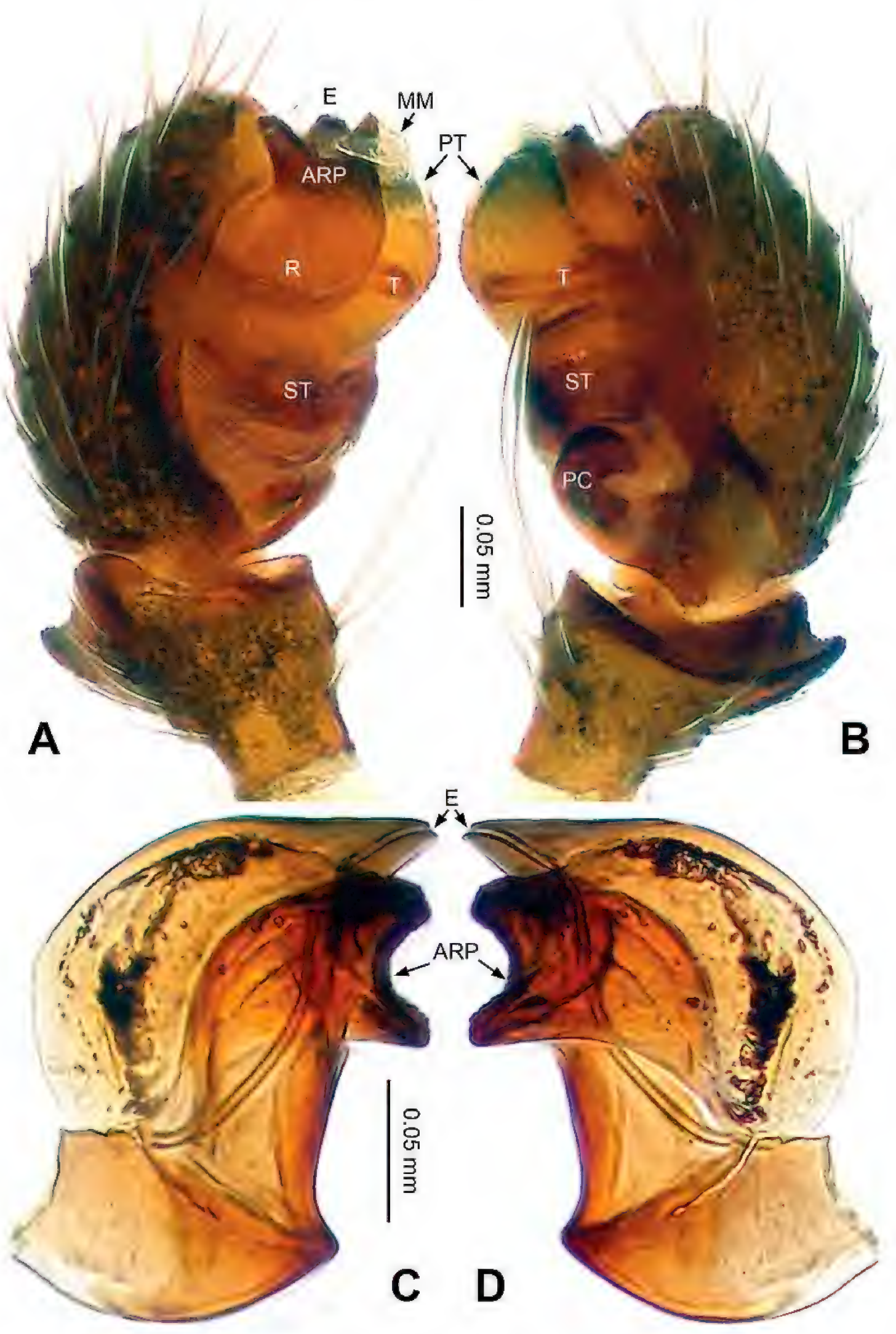


Figure 26. *Curtimeticus nebulosus* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, prolateral view. Scale bars: **A** as **B**, **D** as **C**.

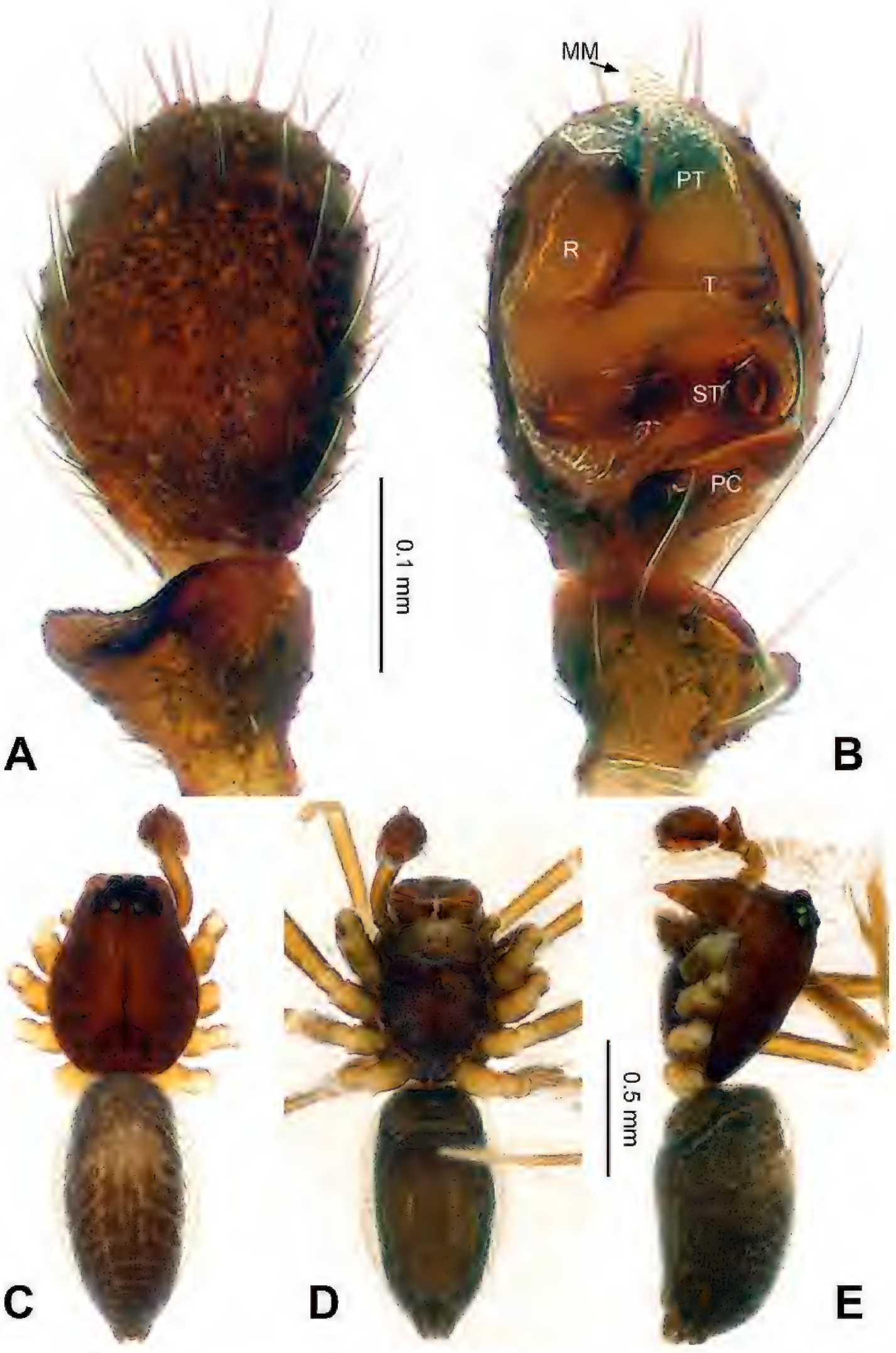


Figure 27. *Curtimeticus nebulosus* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **D** as **E**.

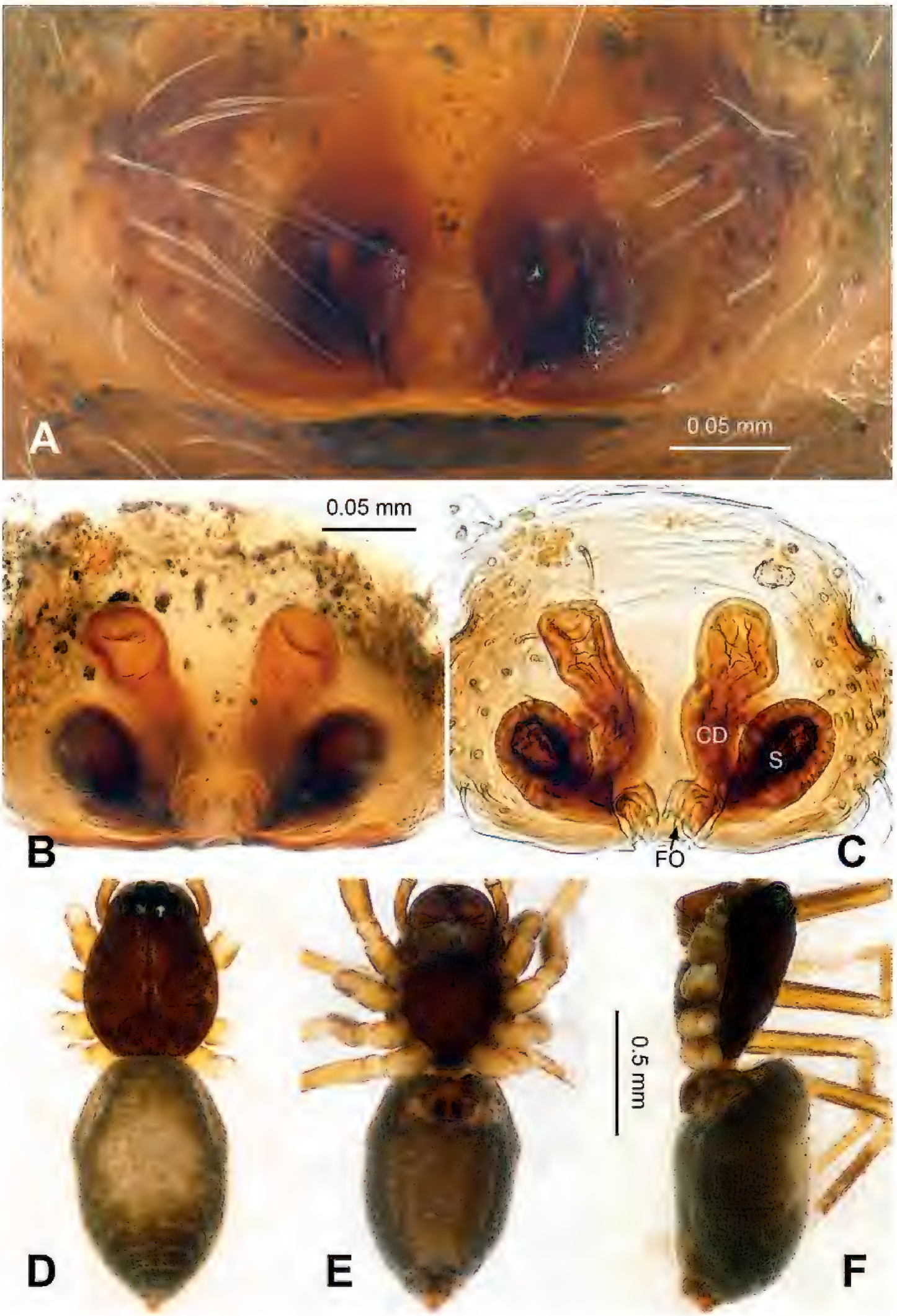


Figure 28. *Curtimeticus nebulosus* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

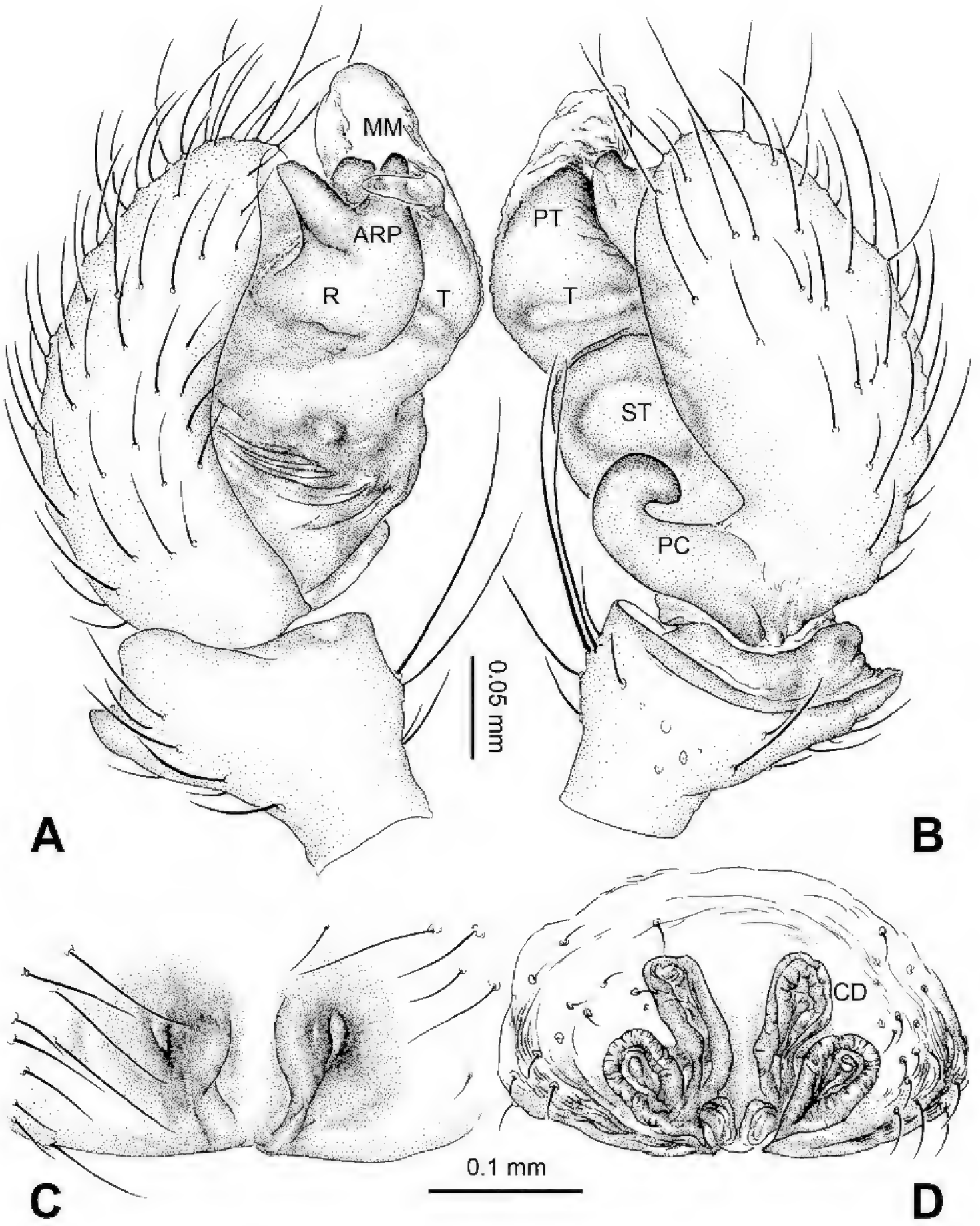


Figure 29. *Curtimeticus nebulosus* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bar: **B** as **A**, **C** as **D**.

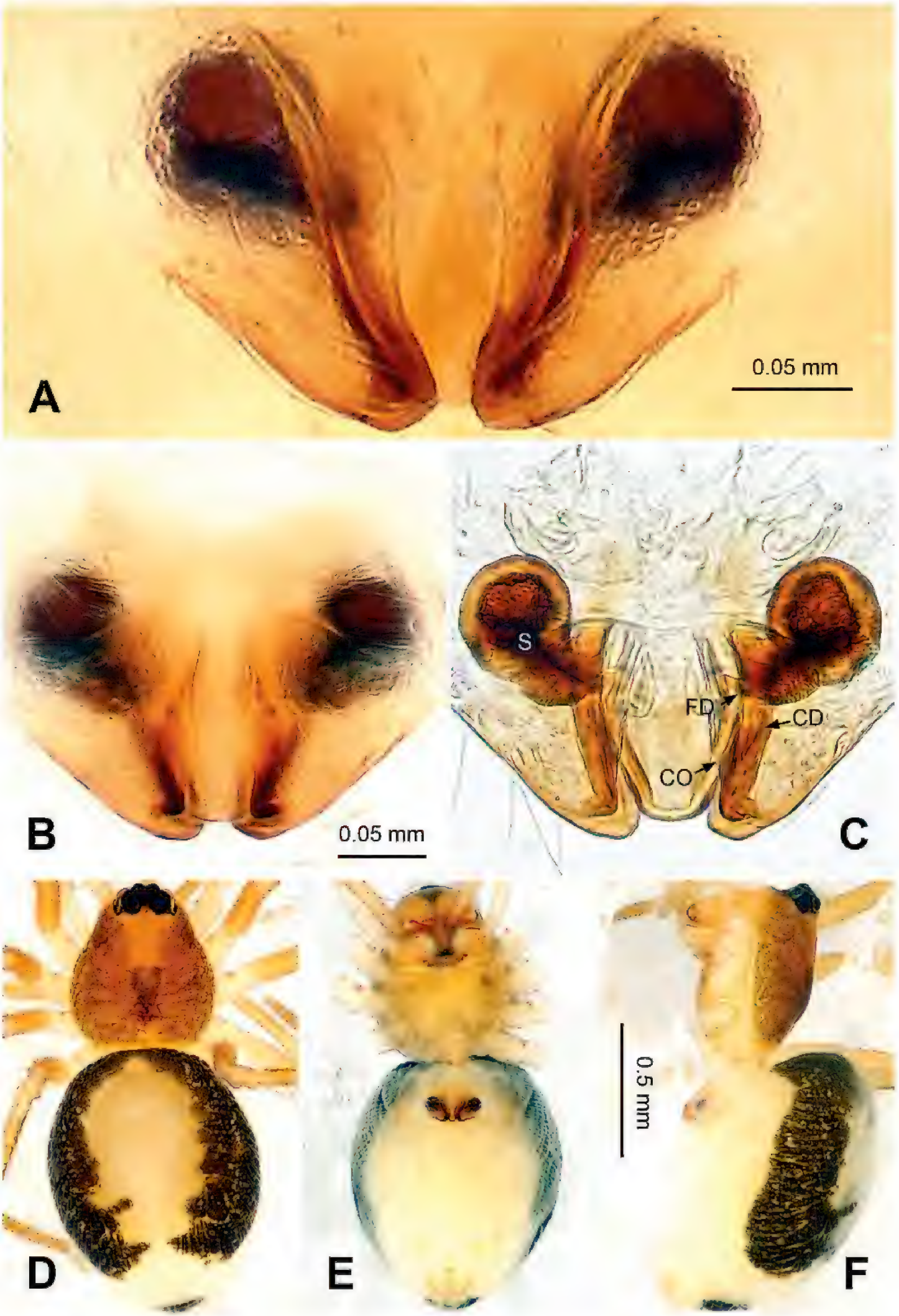


Figure 30. *Dactylopisthes separatus* sp. n., female holotype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

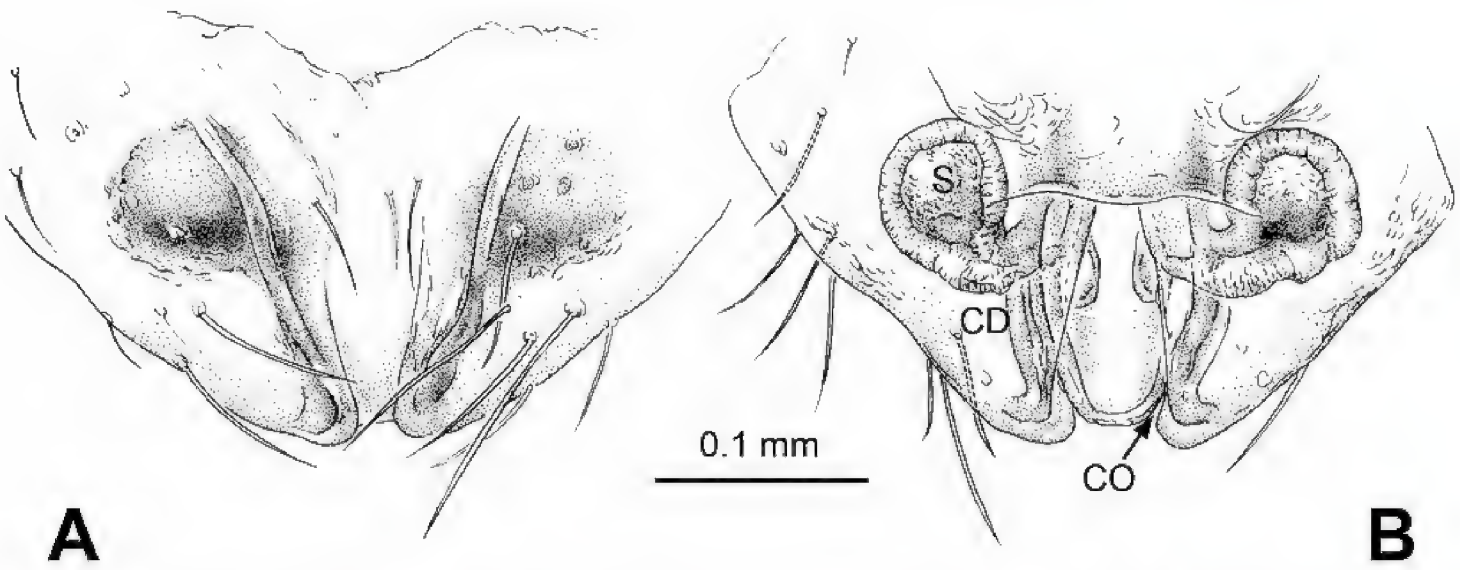


Figure 31. *Dactylopisthes separatus* sp. n., female holotype. **A** Epigyne, ventral view **B** Vulva, dorsal view. Scale bars: **A** as **B**.

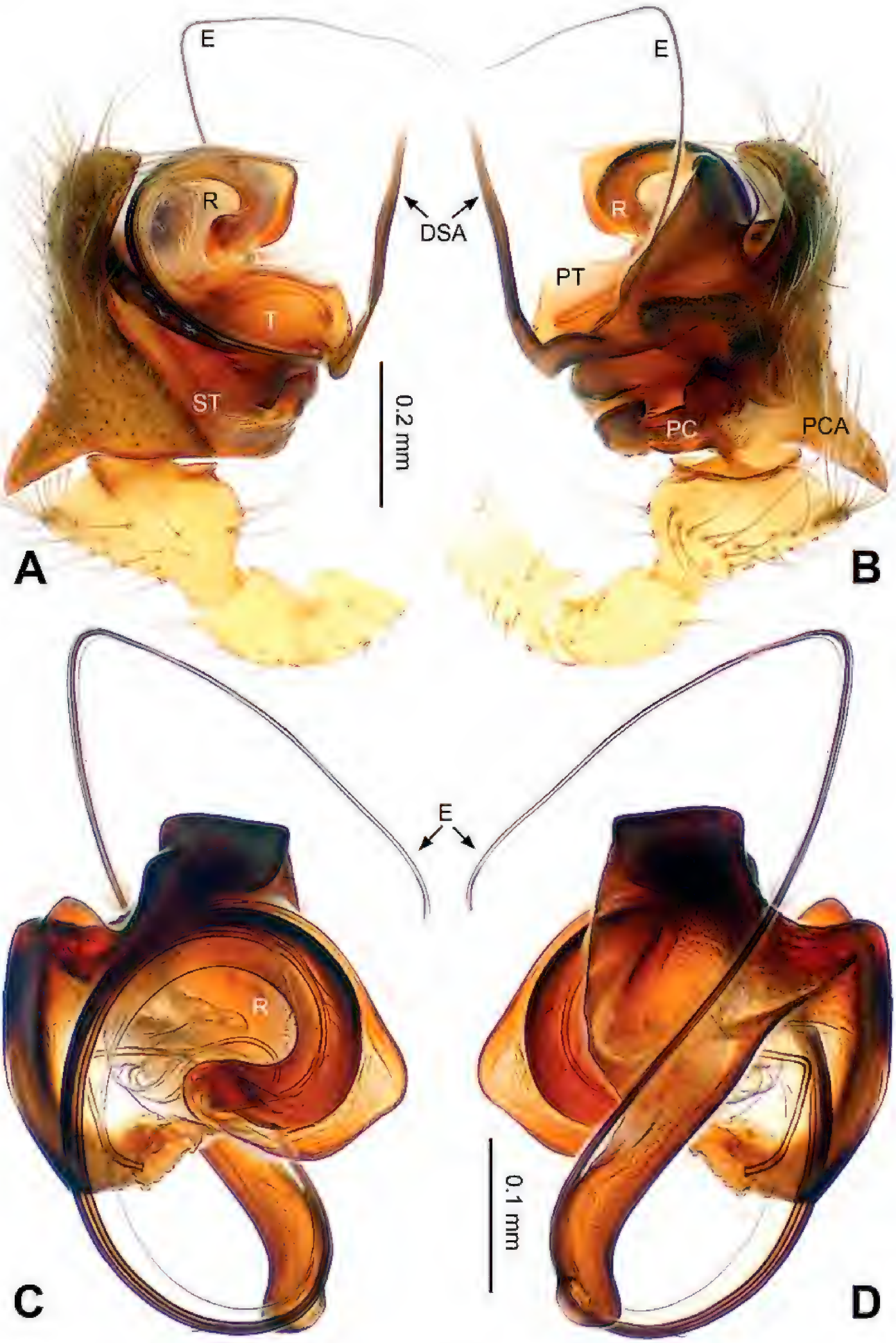


Figure 32. *Gladiata fengli* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division with broken DSA, prolateral view **D** Embolic division with broken DSA, retrolateral view. Scale bars: **B** as **A**, **C** as **D**.

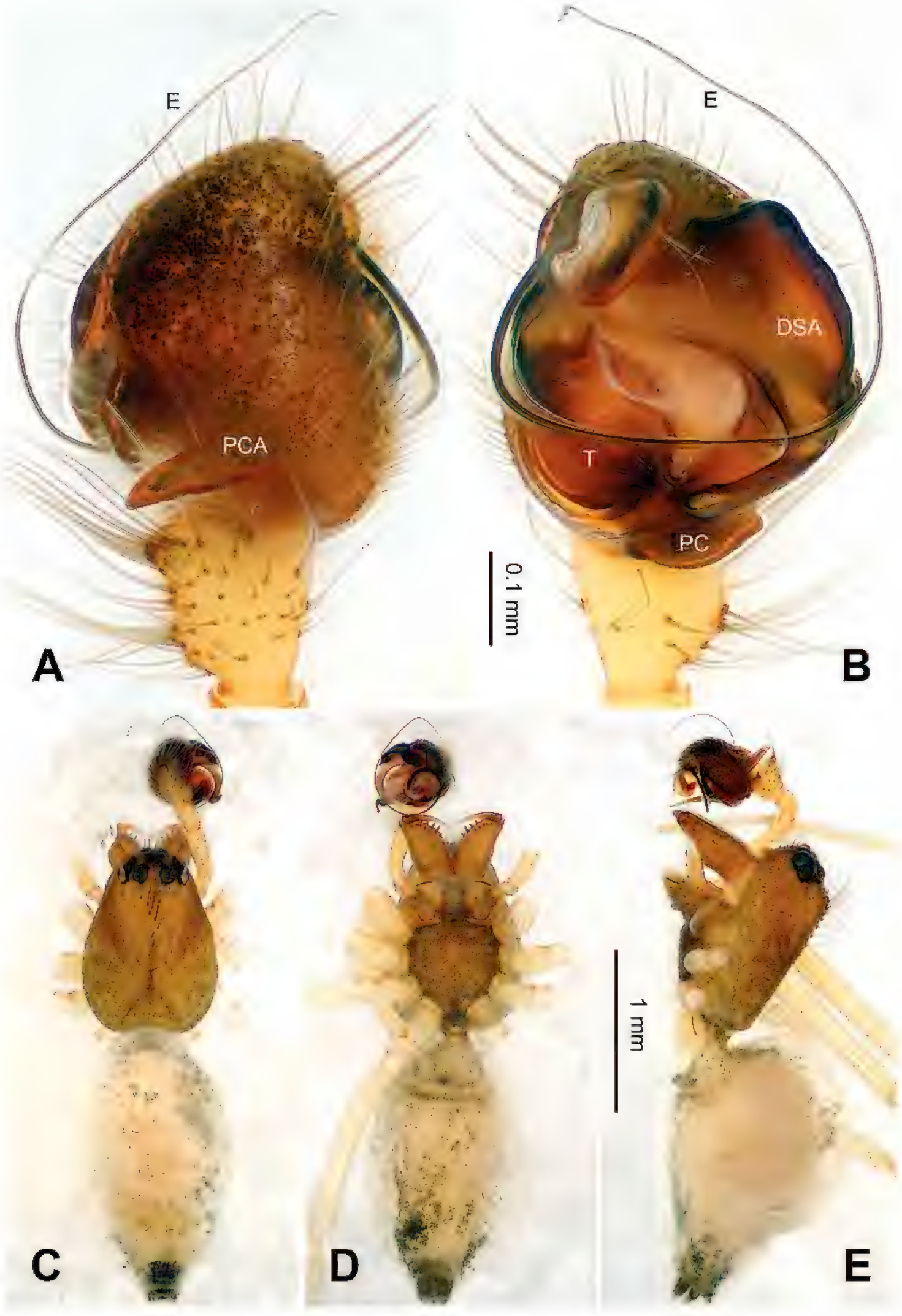
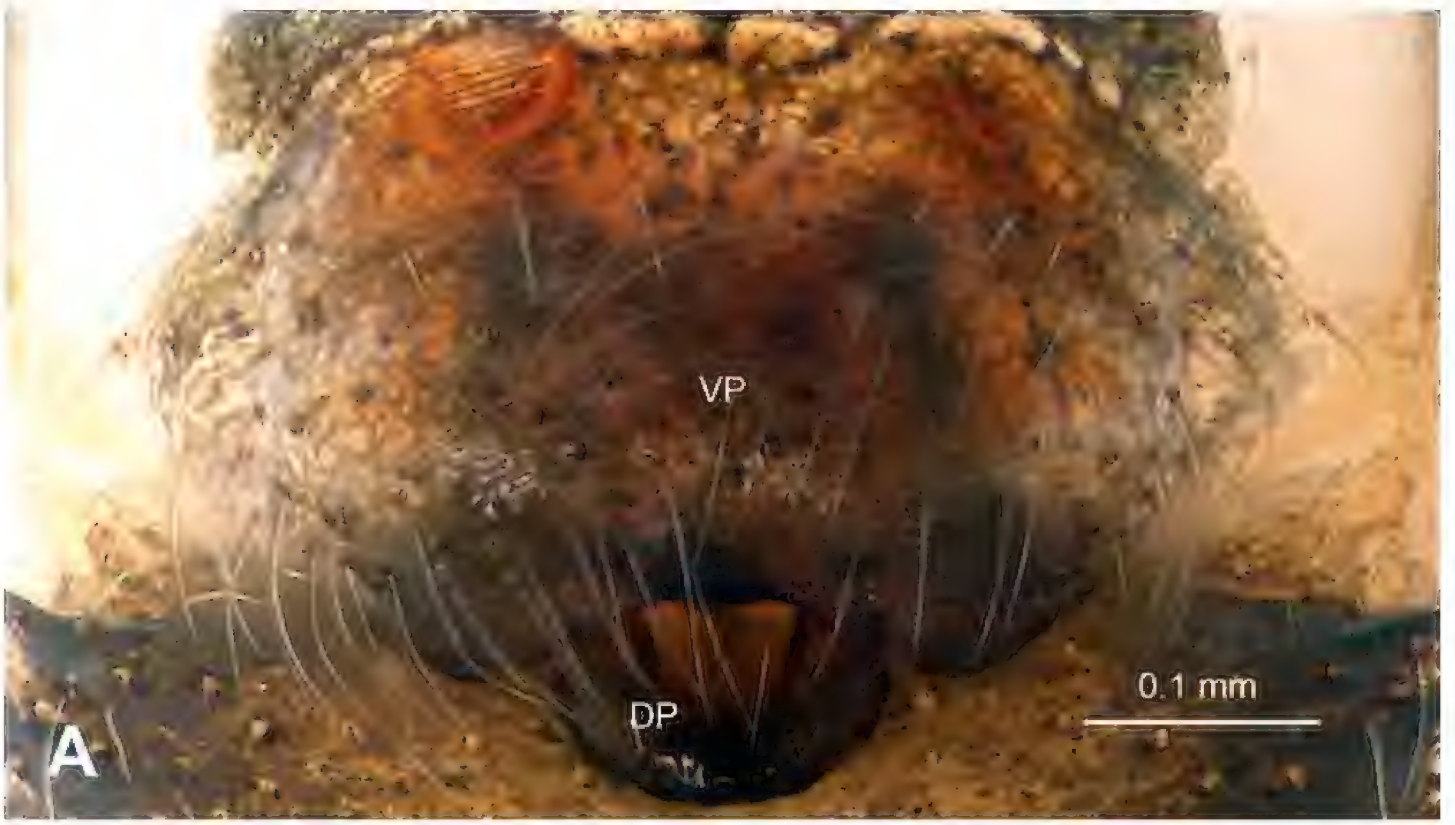


Figure 33. *Gladiata fengli* sp. n., male holotype. **A** Palp, dorsal view **B** Palp with broken DSA, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **D** as **E**.



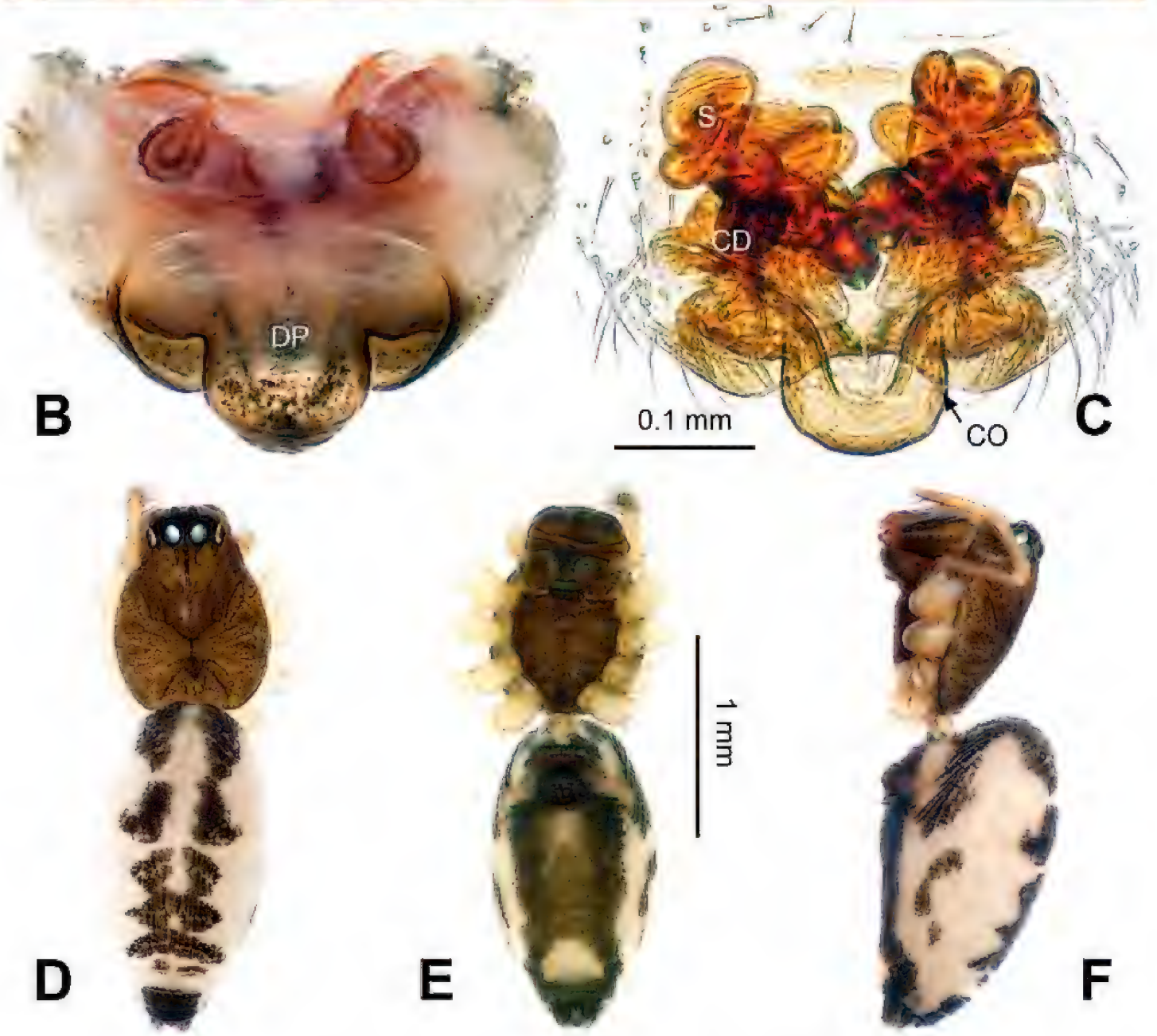


Figure 34. *Gladiata fengli* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **D** and **F** as **E**.

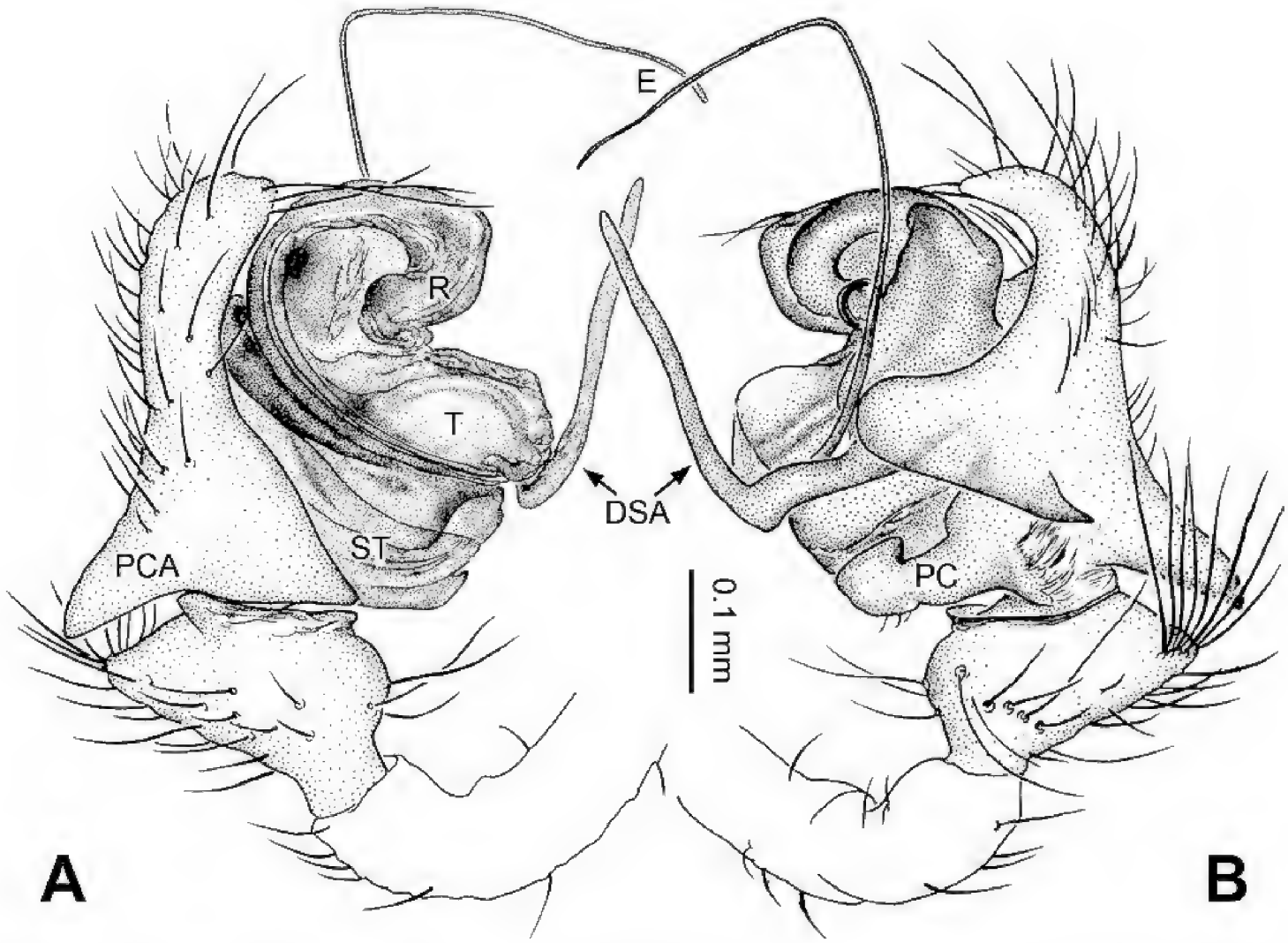


Figure 35. *Gladiata fengli* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **A** as **B**.

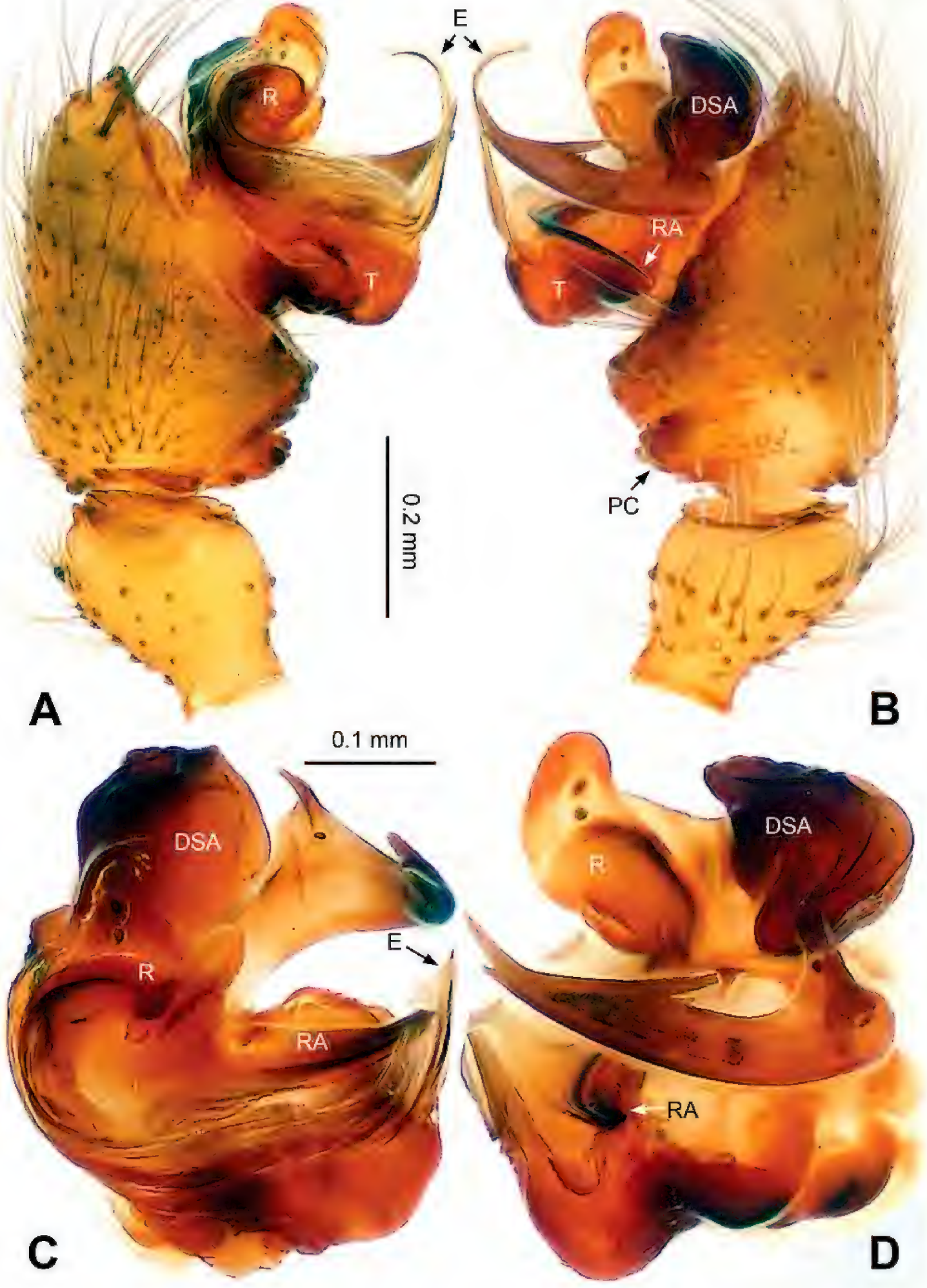


Figure 36. *Glebala aspera* sp. n., male holotype. **A** Right palp, prolateral view **B** Right palp, retrolateral view **C** Embolic division of right palp, prolateral view **D** Embolic division of right palp, retrolateral view. Scale bars: **A** as **B**, **C** as **D**.

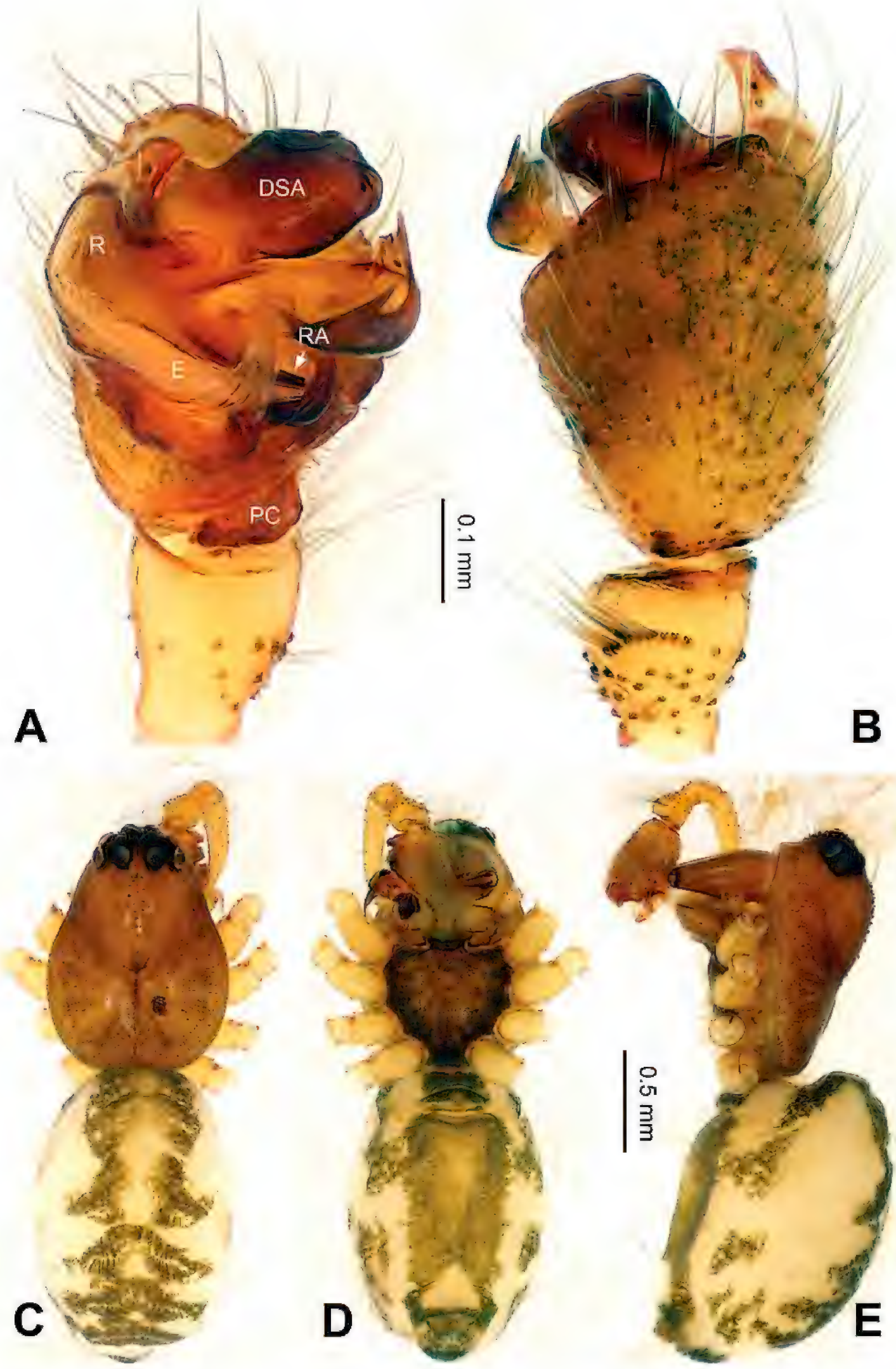


Figure 37. *Glebala aspera* sp. n., male holotype. **A** Right palp, ventral view **B** Right palp, dorsal view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **D** as **E**.

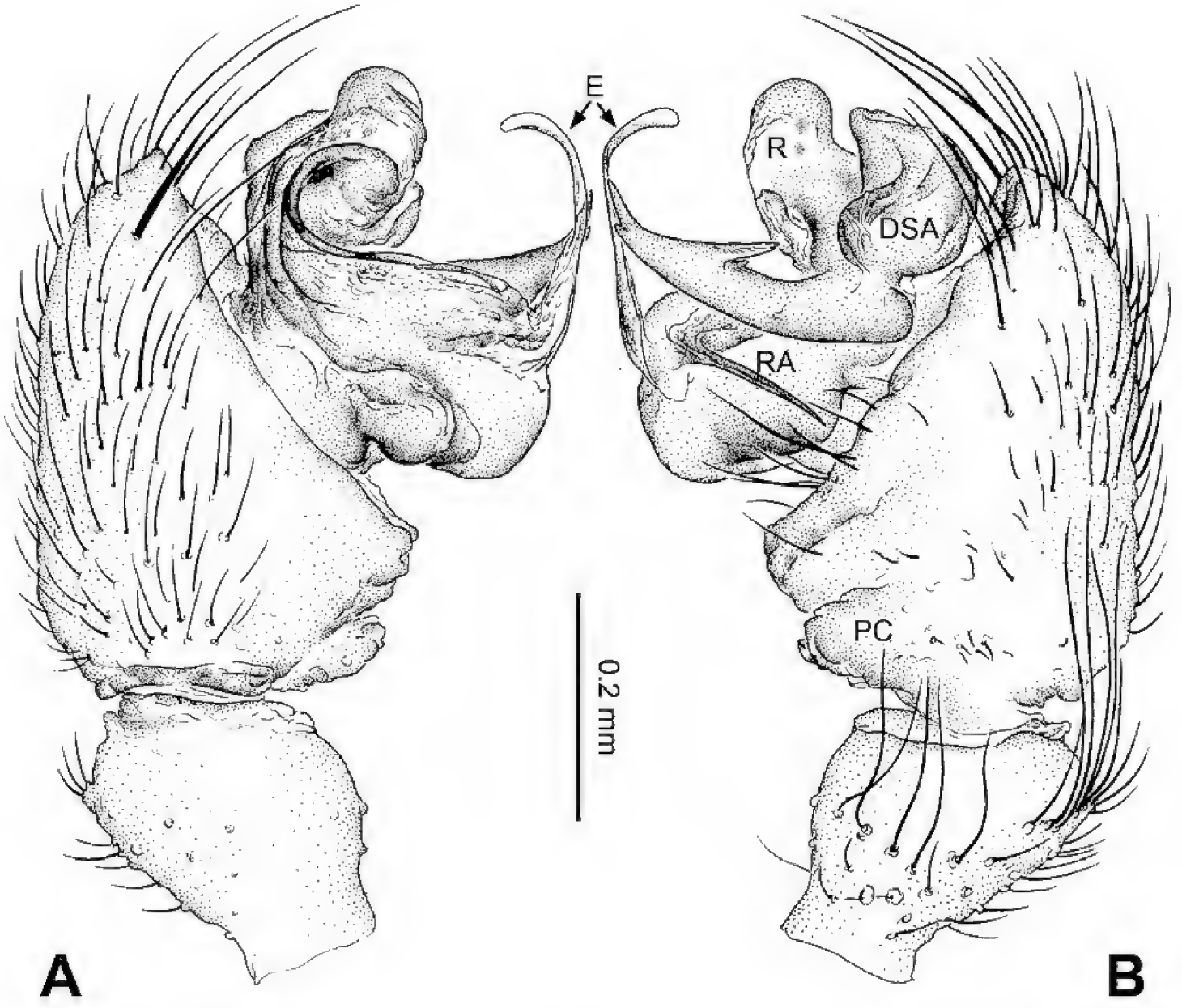


Figure 38. *Glebala aspera* sp. n., male holotype. **A** Right palp, prolateral view **B** Right palp, retrolateral view. Scale bar: **A** as **B**.

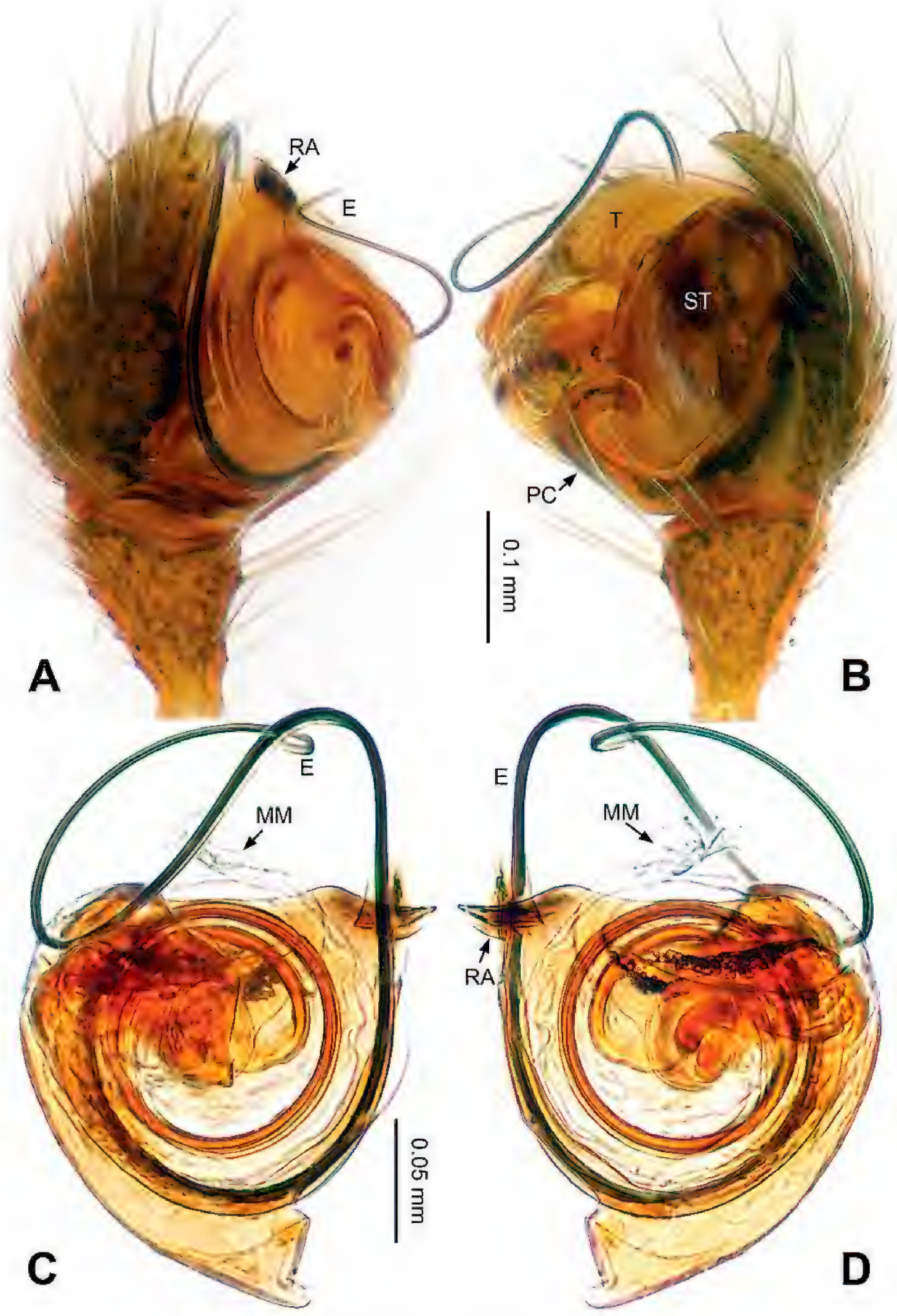


Figure 39. *Glomerosus lateralis* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, dorsal view **D** Embolic division, ventral view. Scale bars: **A** as **B**, **D** as **C**.

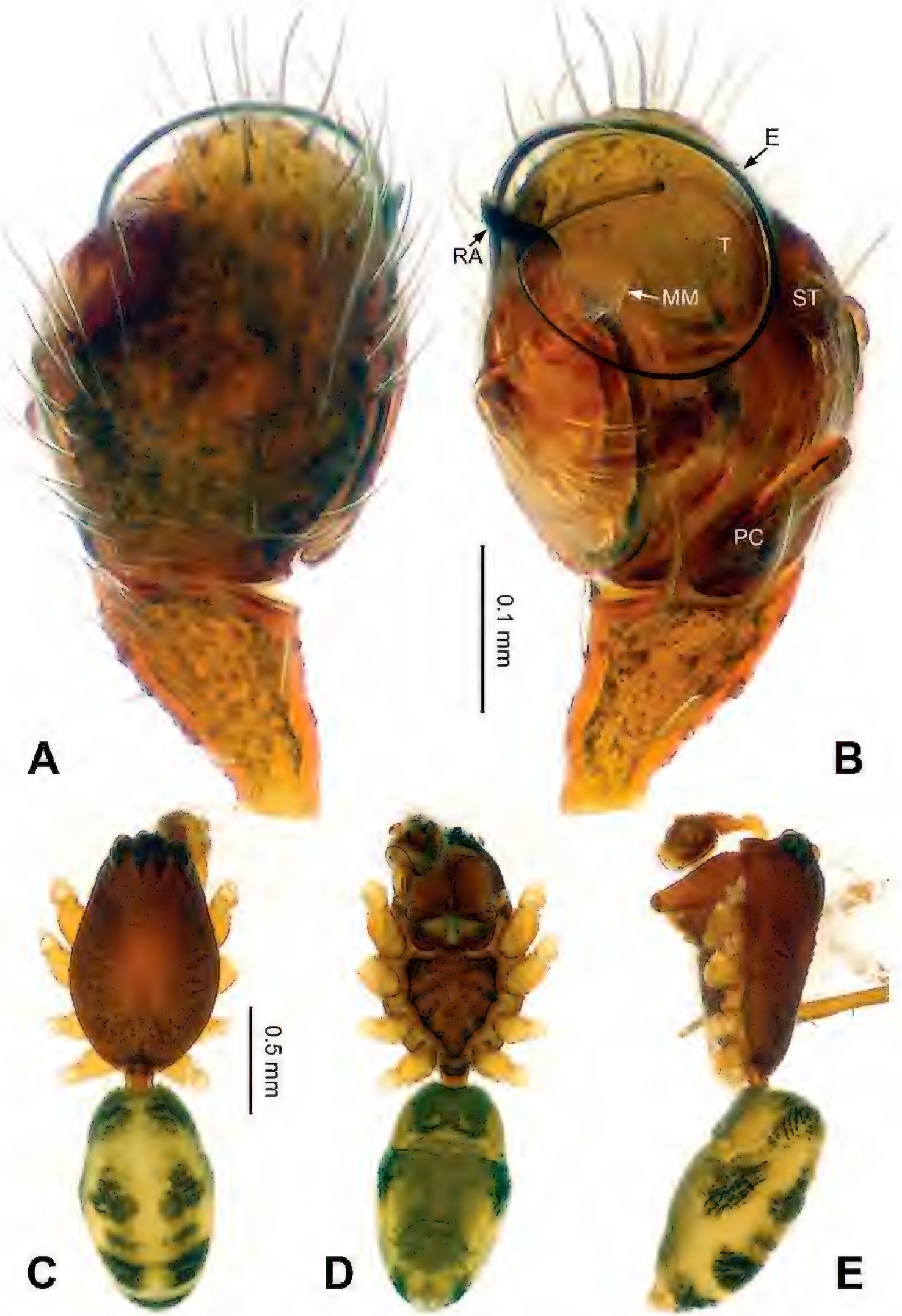


Figure 40. *Glomerosus lateralis* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **D** and **E** as **C**.

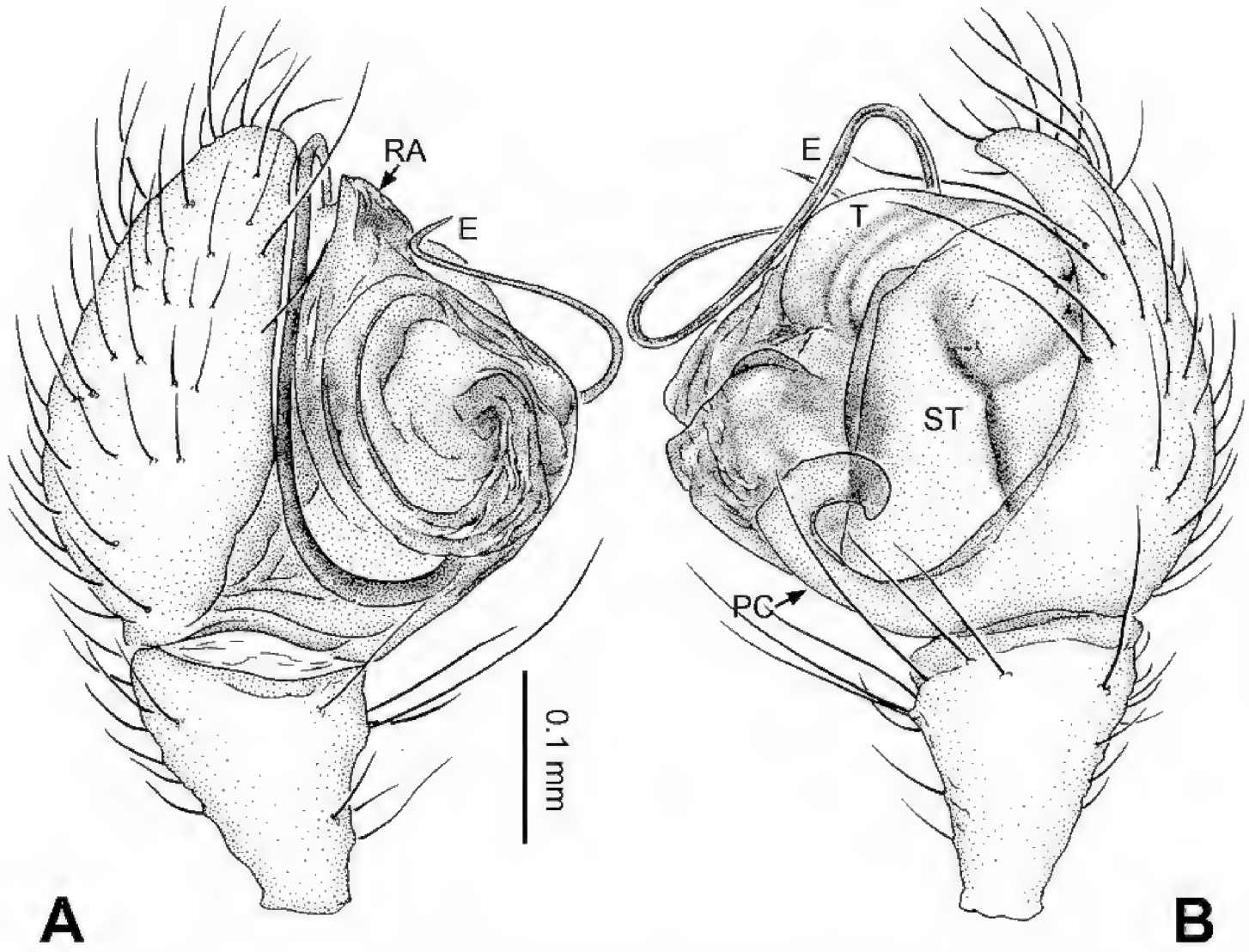


Figure 41. *Glomerosus lateralis* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **B** as **A**.

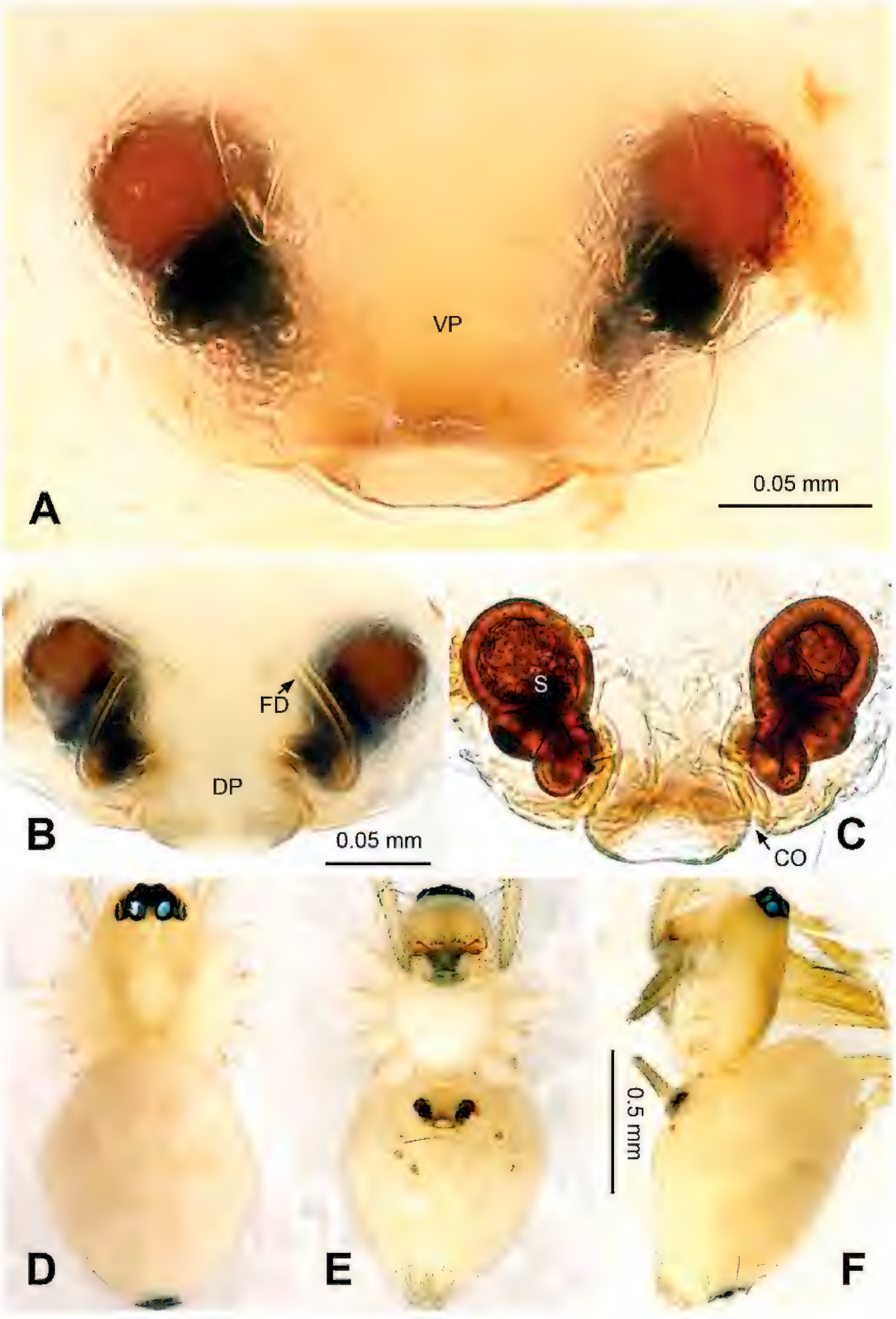


Figure 42. *Gongylidiellum bracteatum* sp. n., female holotype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

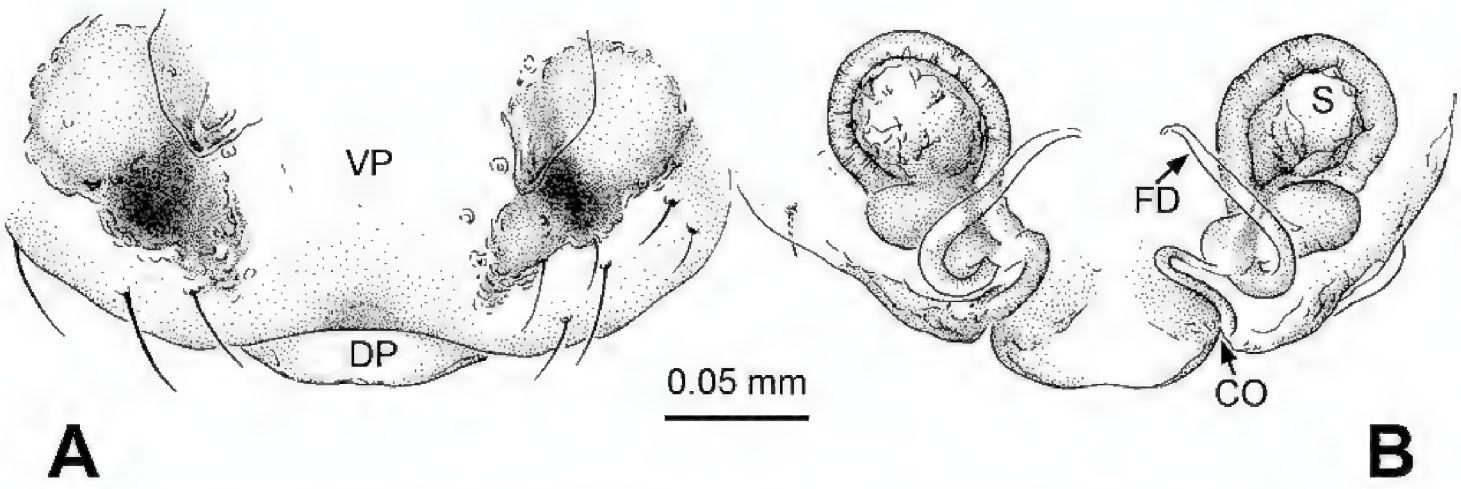


Figure 43. *Gongylidiellum bracteatum* sp. n., female holotype. **A** Epigyne, ventral view **B** Vulva, dorsal view Scale bar: **B** as **A**.

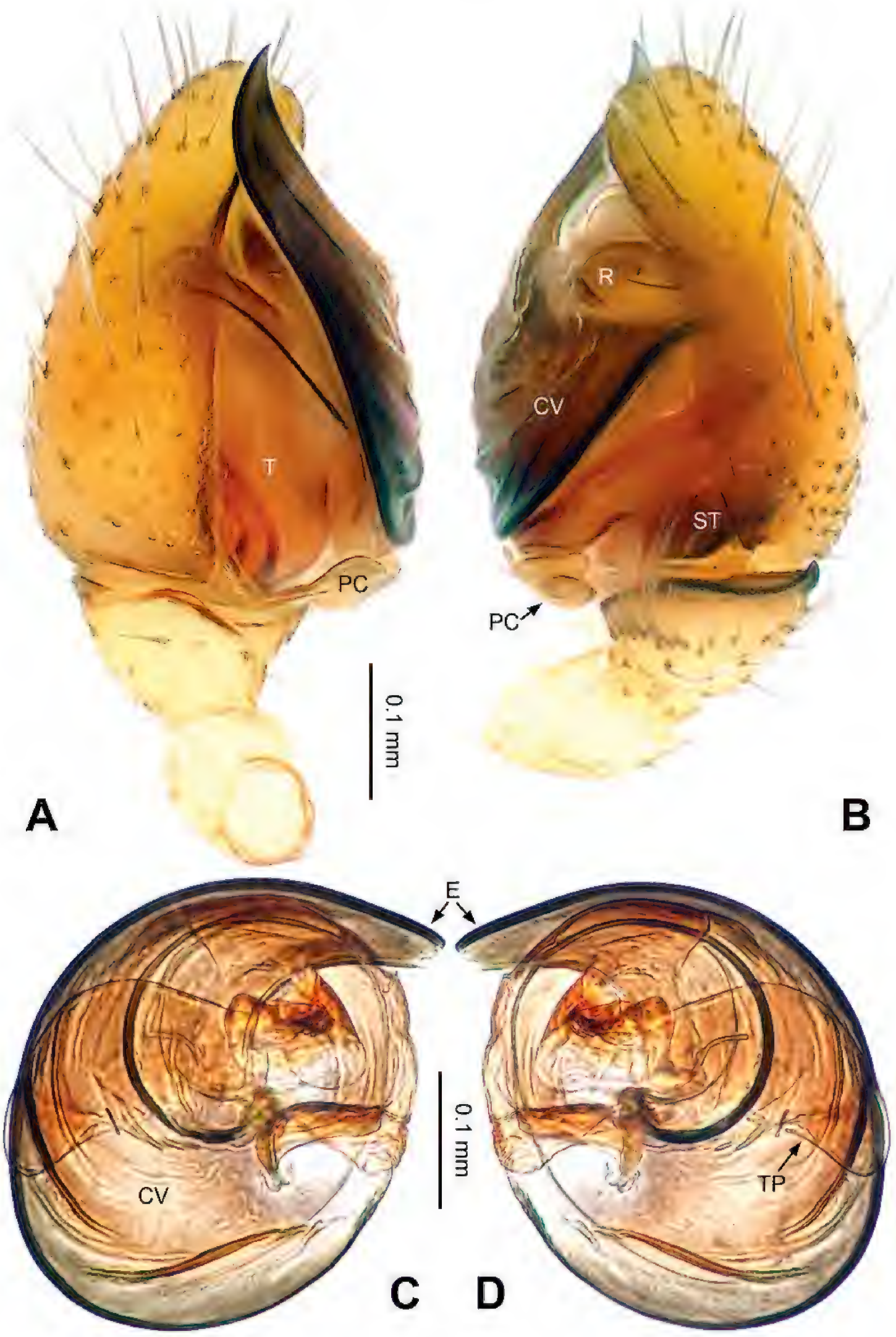


Figure 44. *Houshenzinus xiaolongha* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, ventral view **D** Embolic division, dorsal view. Scale bar: **B** as **A**, **C** as **D**.

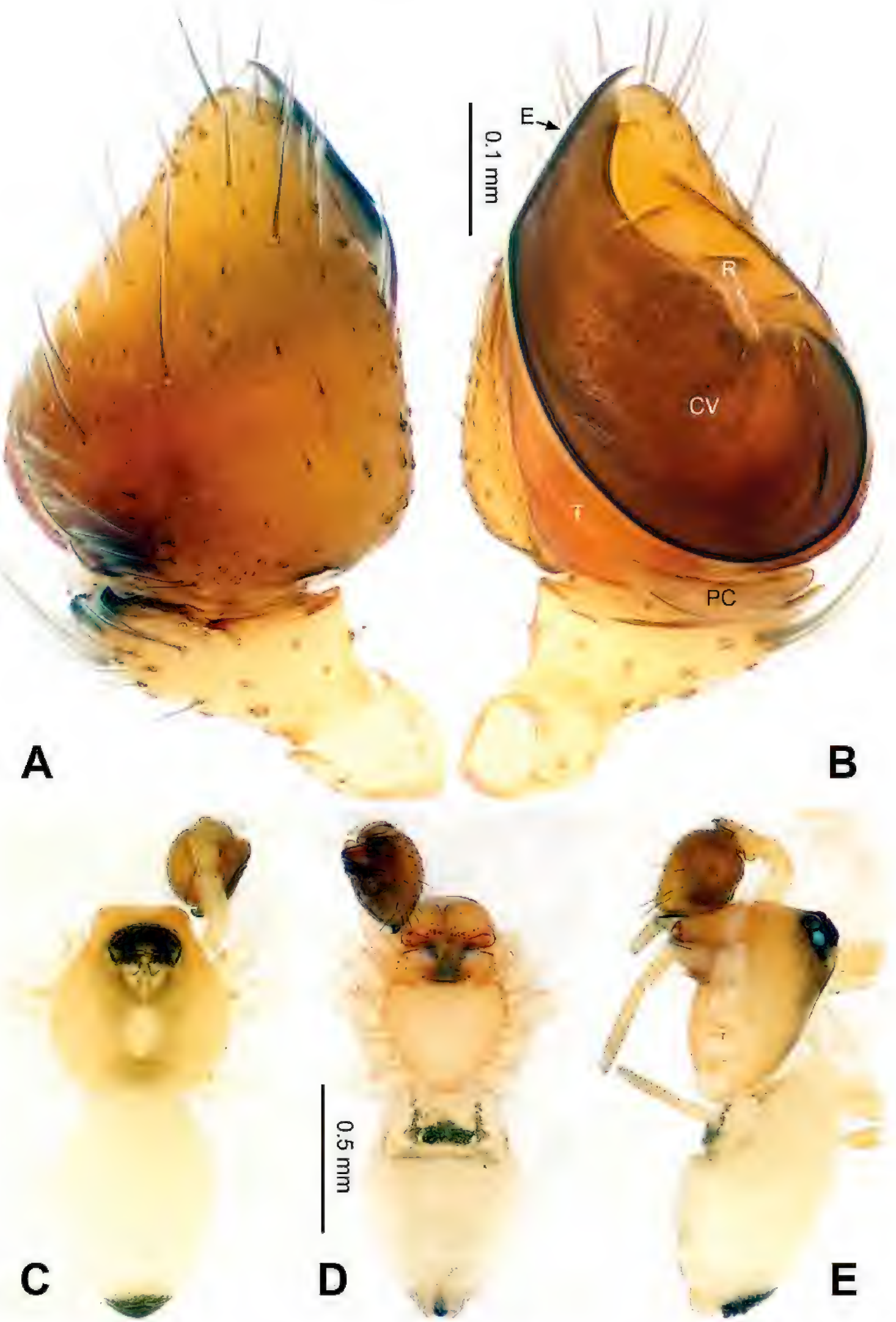


Figure 45. *Houshenzinus xiaolongha* sp. n., male holotype. **A** Palp, doral view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **E** as **D**.

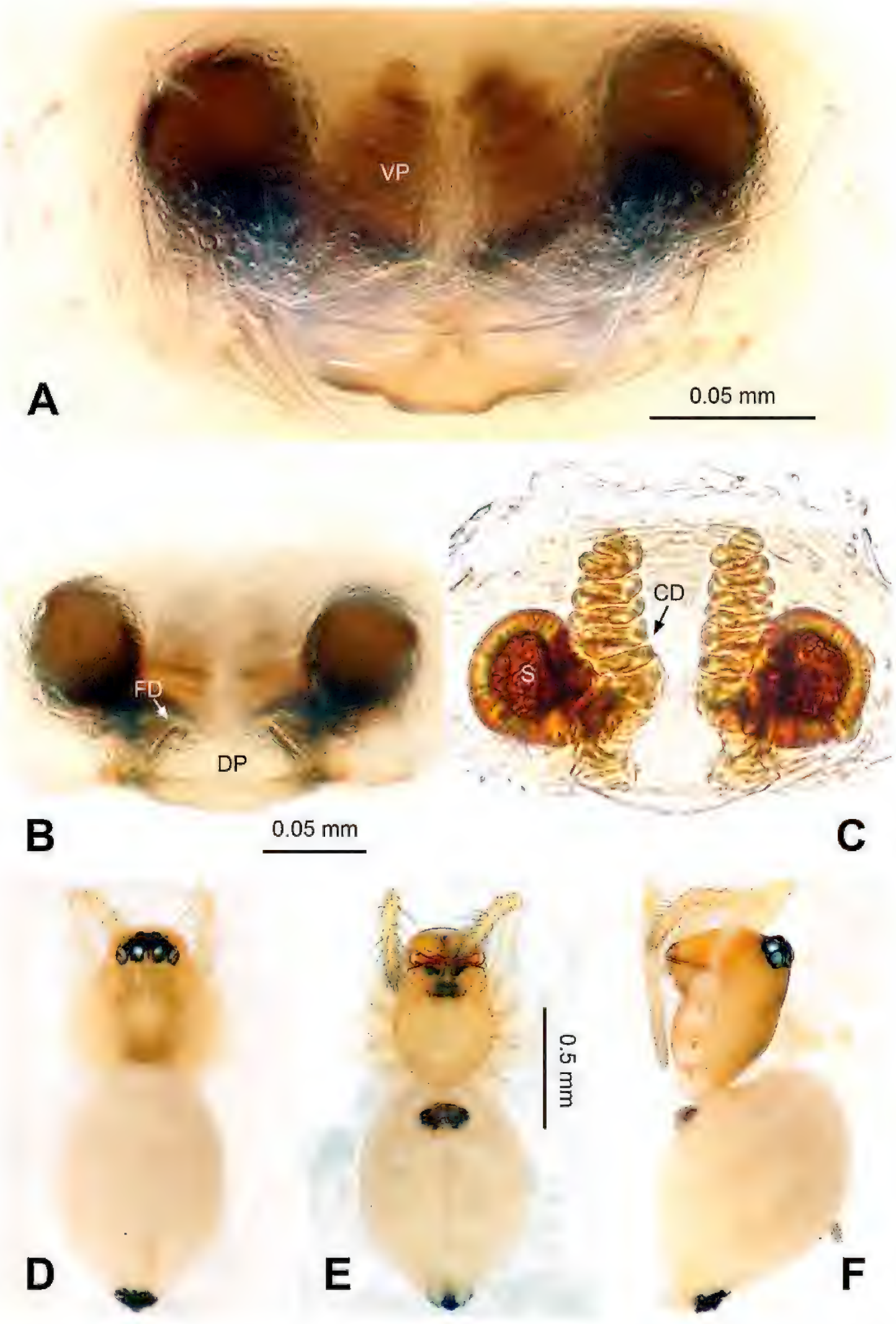


Figure 46. *Houshenzinus xiaolongha* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **F** as **E**.

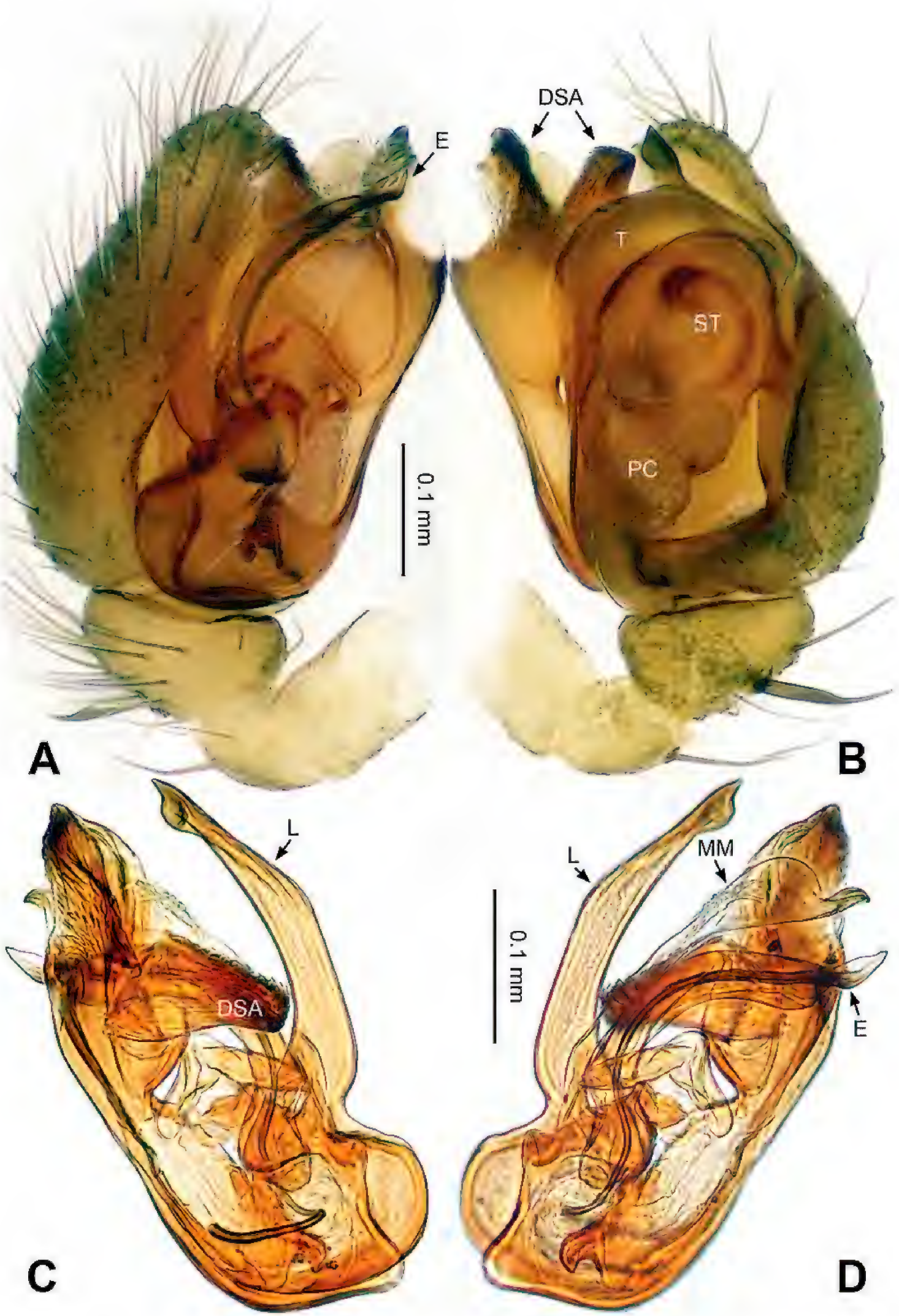


Figure 47. *Kaestneria bicultrata.* **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, prolateral view. Scale bars: **B** as **A**, **C** as **D**.

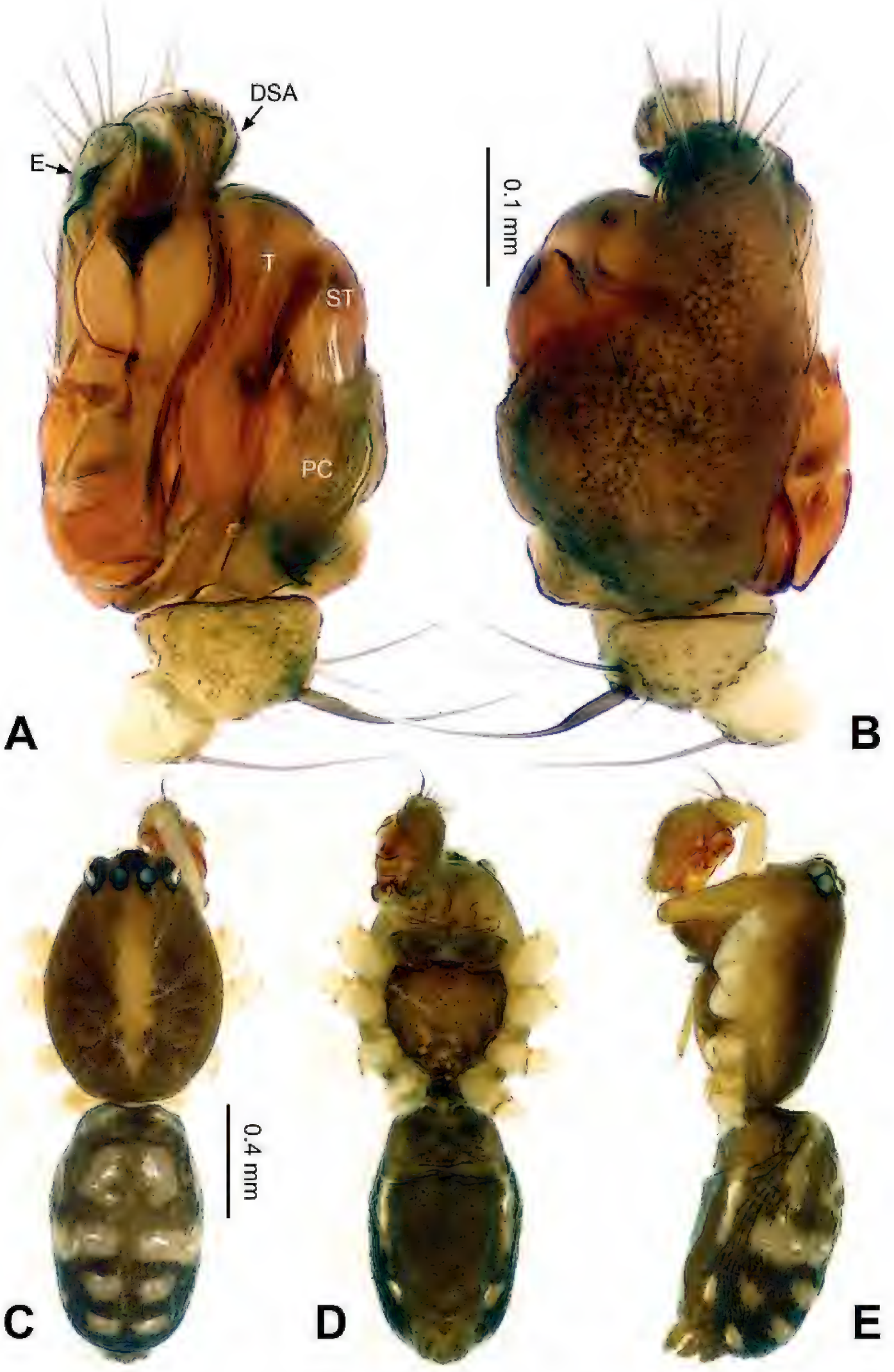


Figure 48. *Kaestneria bicultrata*. **A** Palp, ventral view **B** Palp, dorsal view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **D** and **E** as **C**.

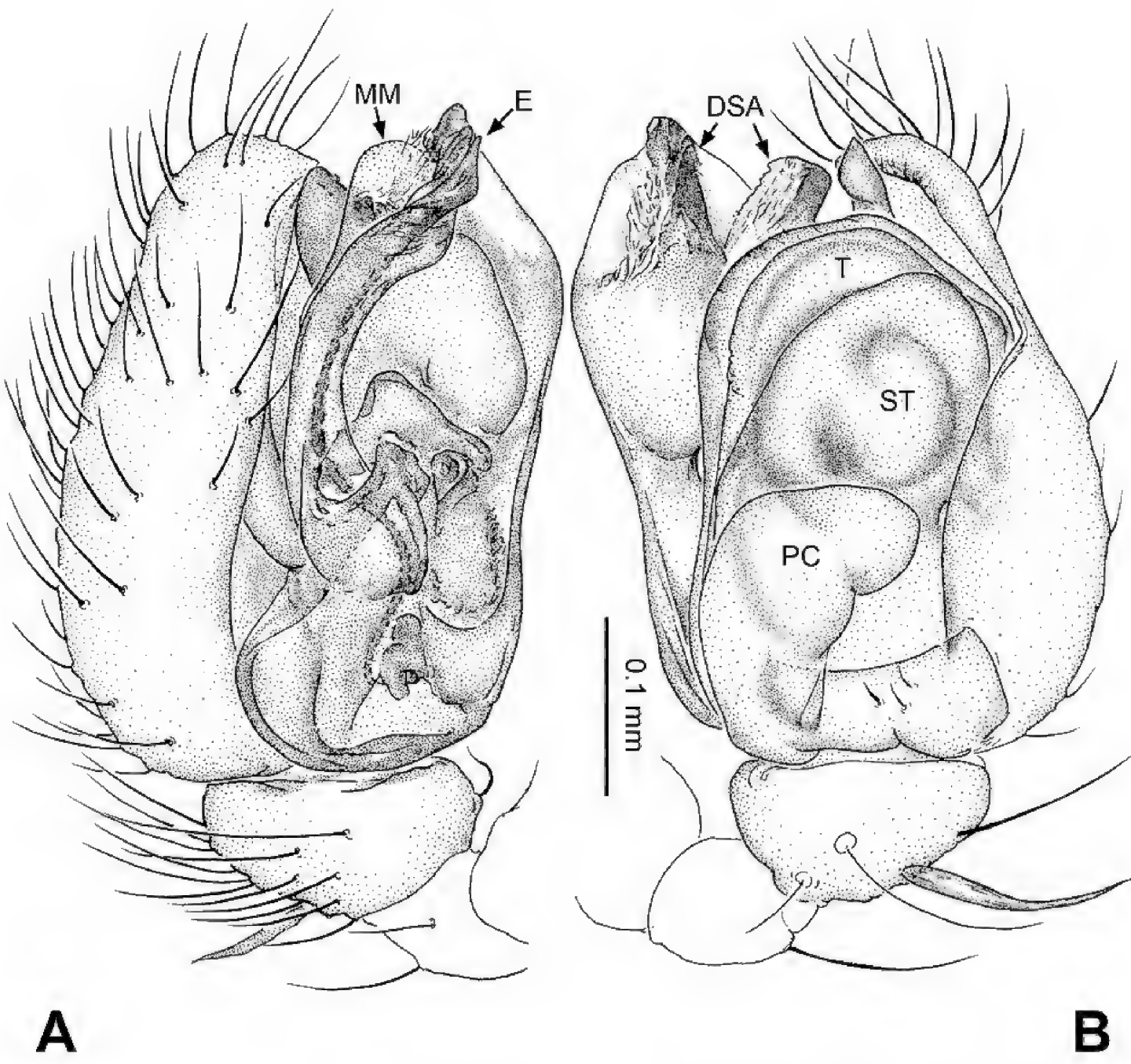


Figure 49. *Kaestneria bicultrata*. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **A** as **B**.

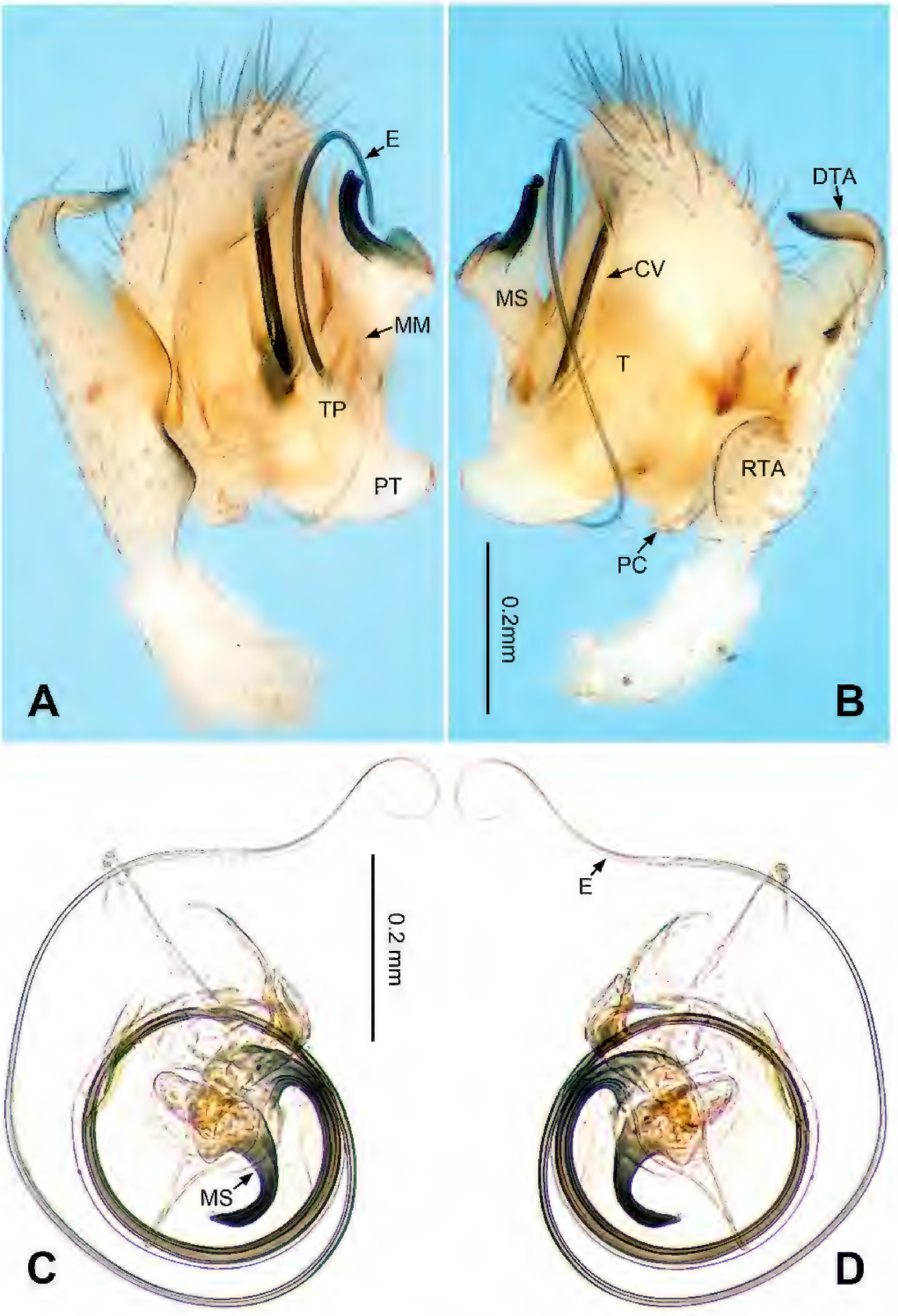


Figure 50. *Laogone bai* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, dorsal view **D** Embolic division, ventral view. Scale bars: **A** as **B**, **D** as **C**.

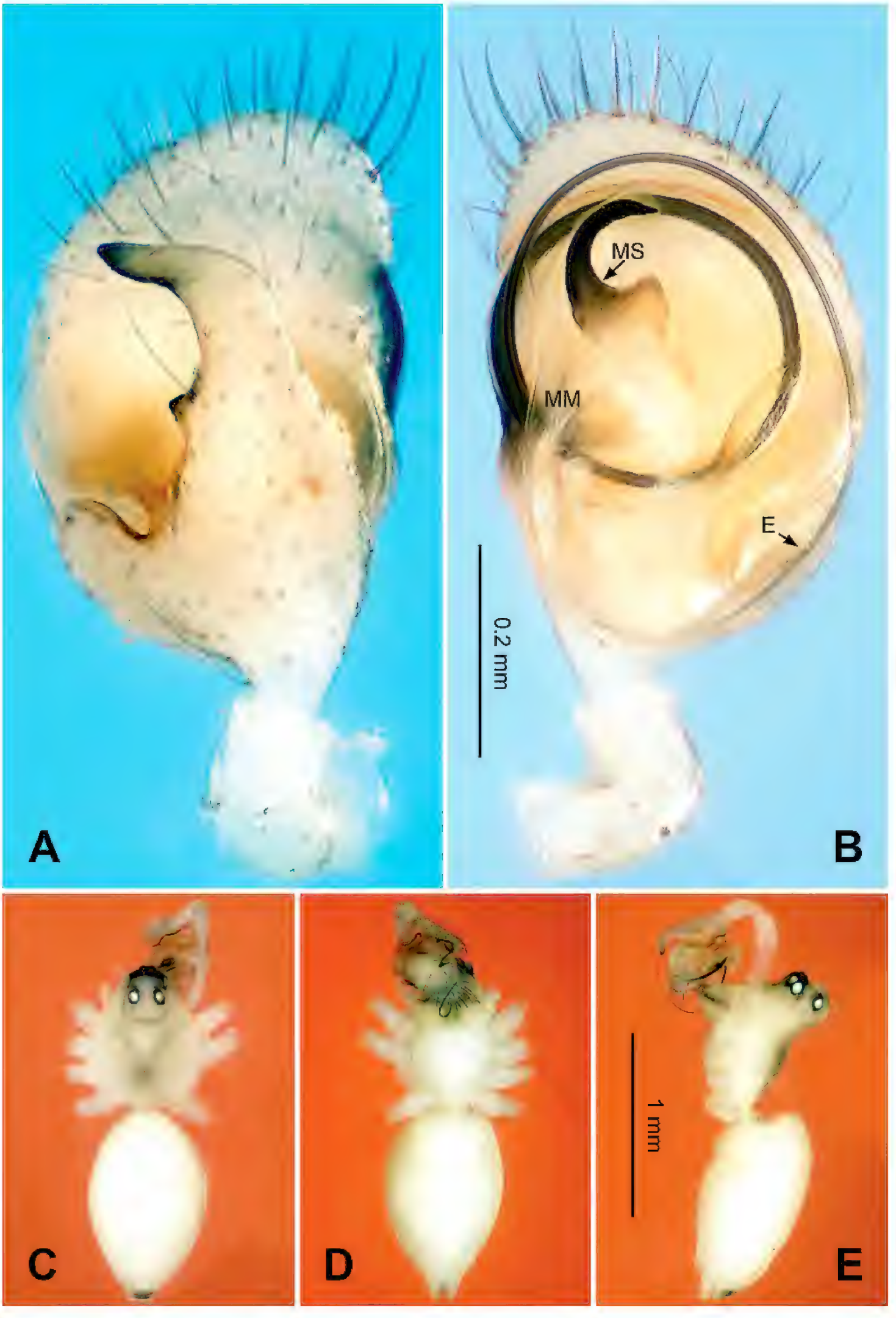


Figure 51. *Laogone bai* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **D** as **E**.

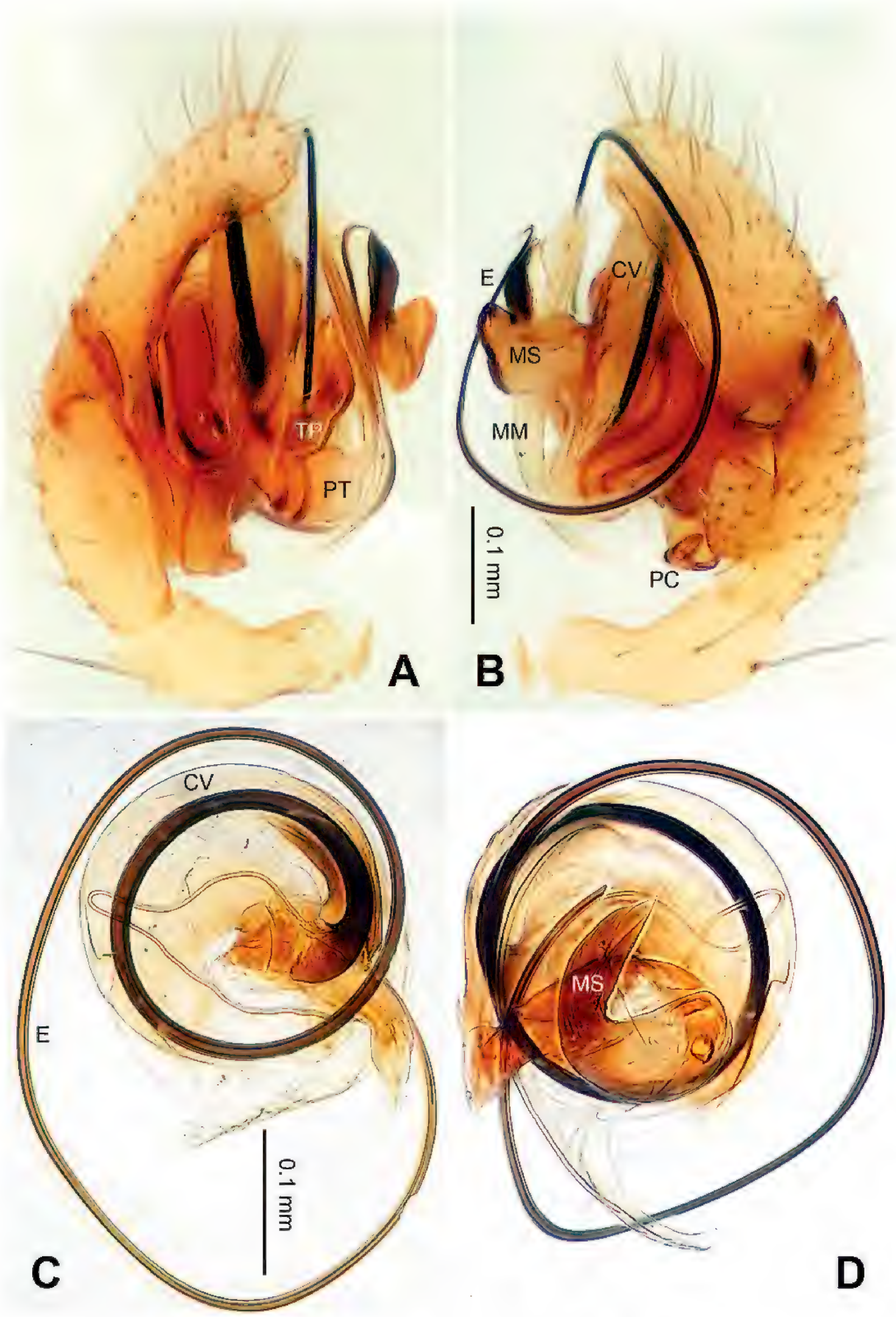


Figure 52. *Laogone lunata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, dorsal view **D** Embolic division, ventral view. Scale bars: **A** as **B**, **D** as **C**.

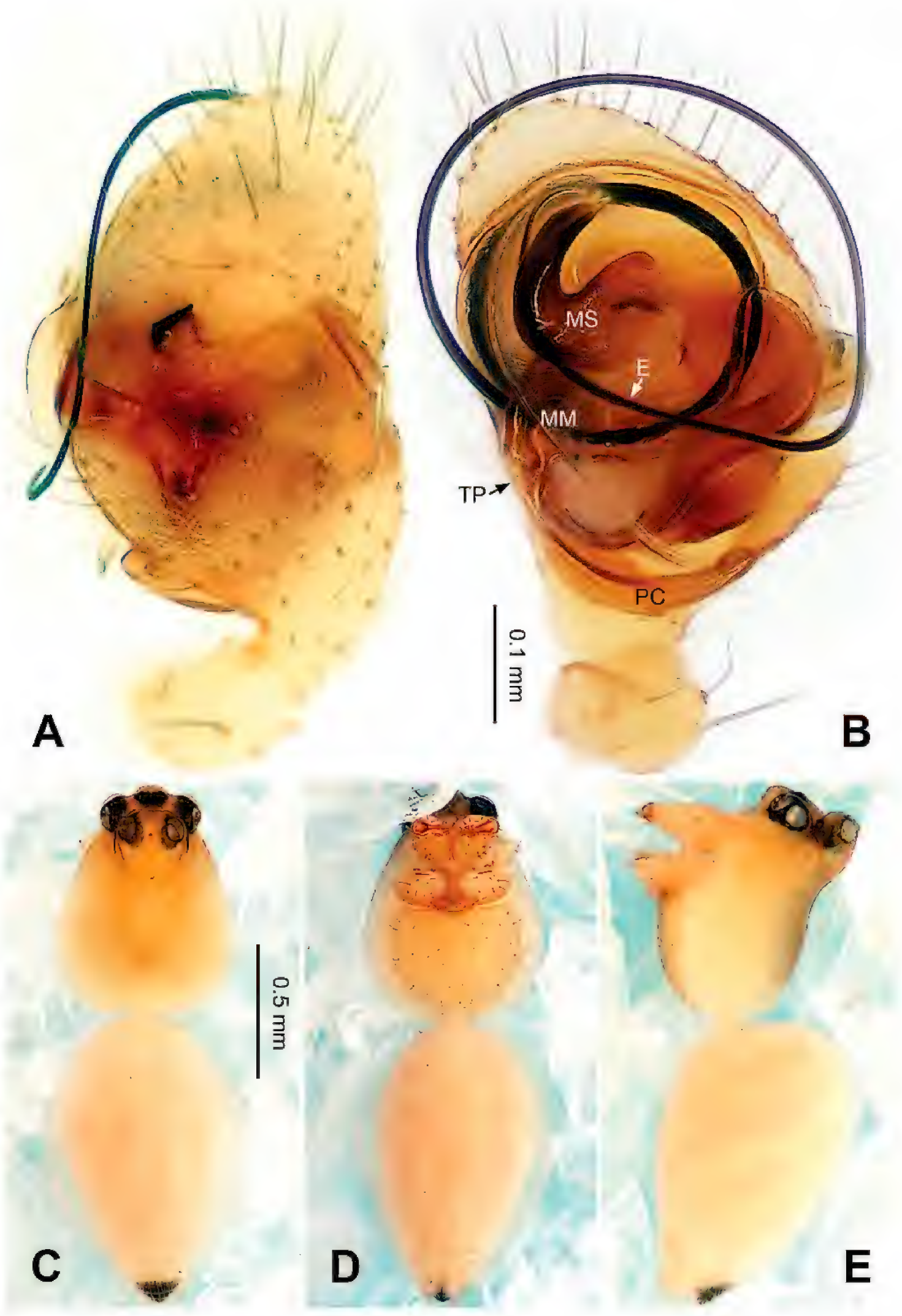


Figure 53. *Laogone lunata* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **D** and **E** as **C**.

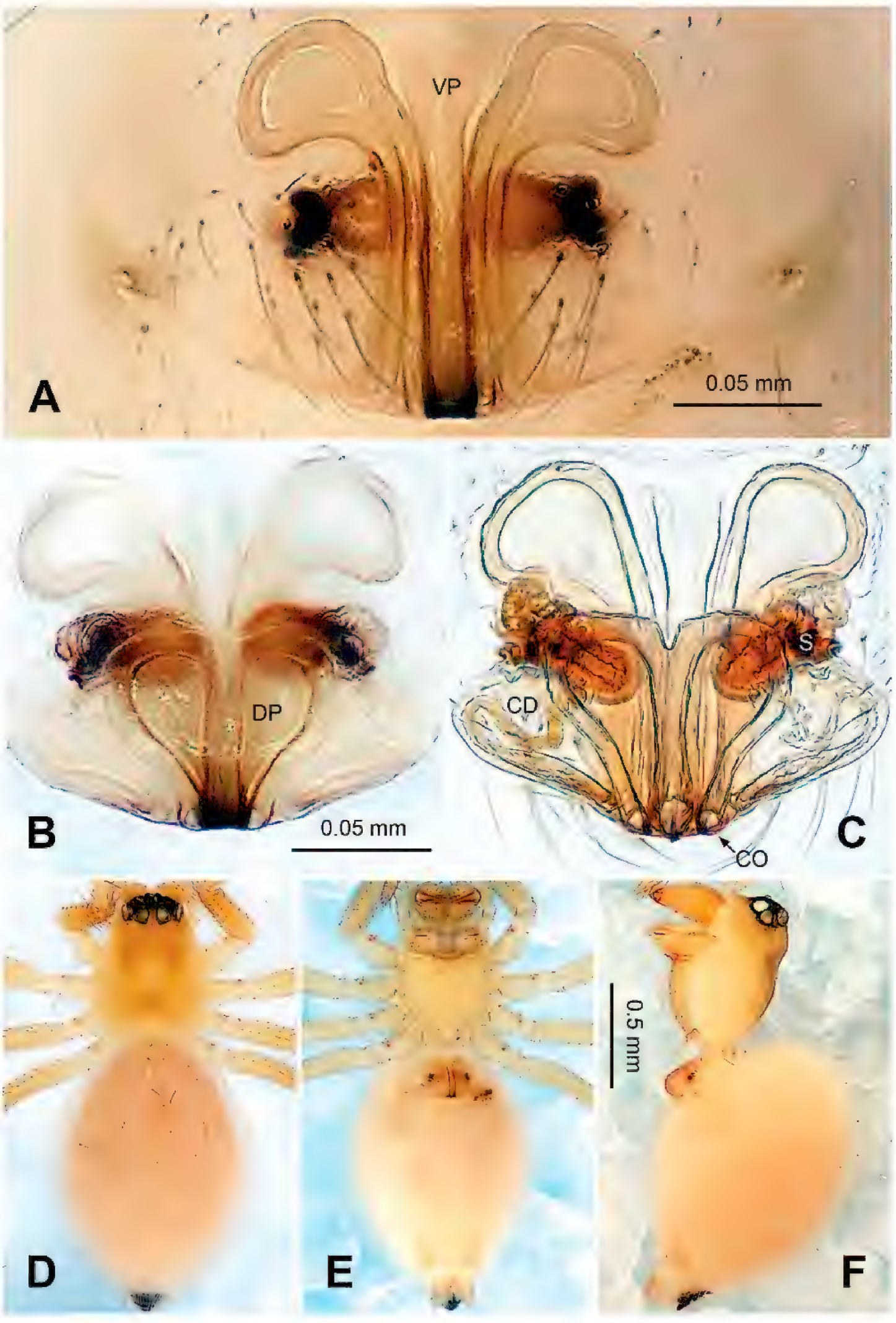


Figure 54. *Laogone lunata* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

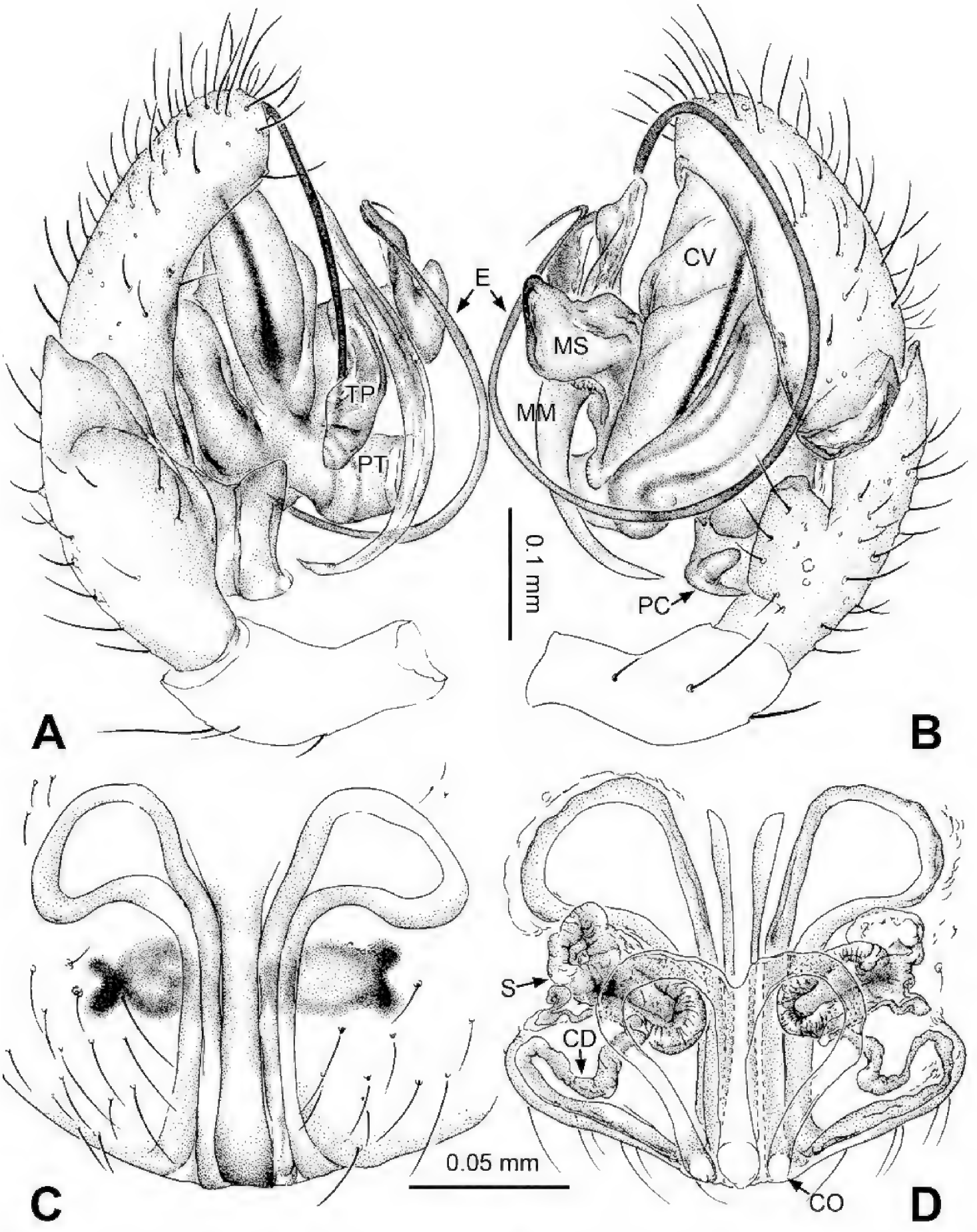


Figure 55. *Laogone lunata* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **A** as **B**, **C** as **D**.

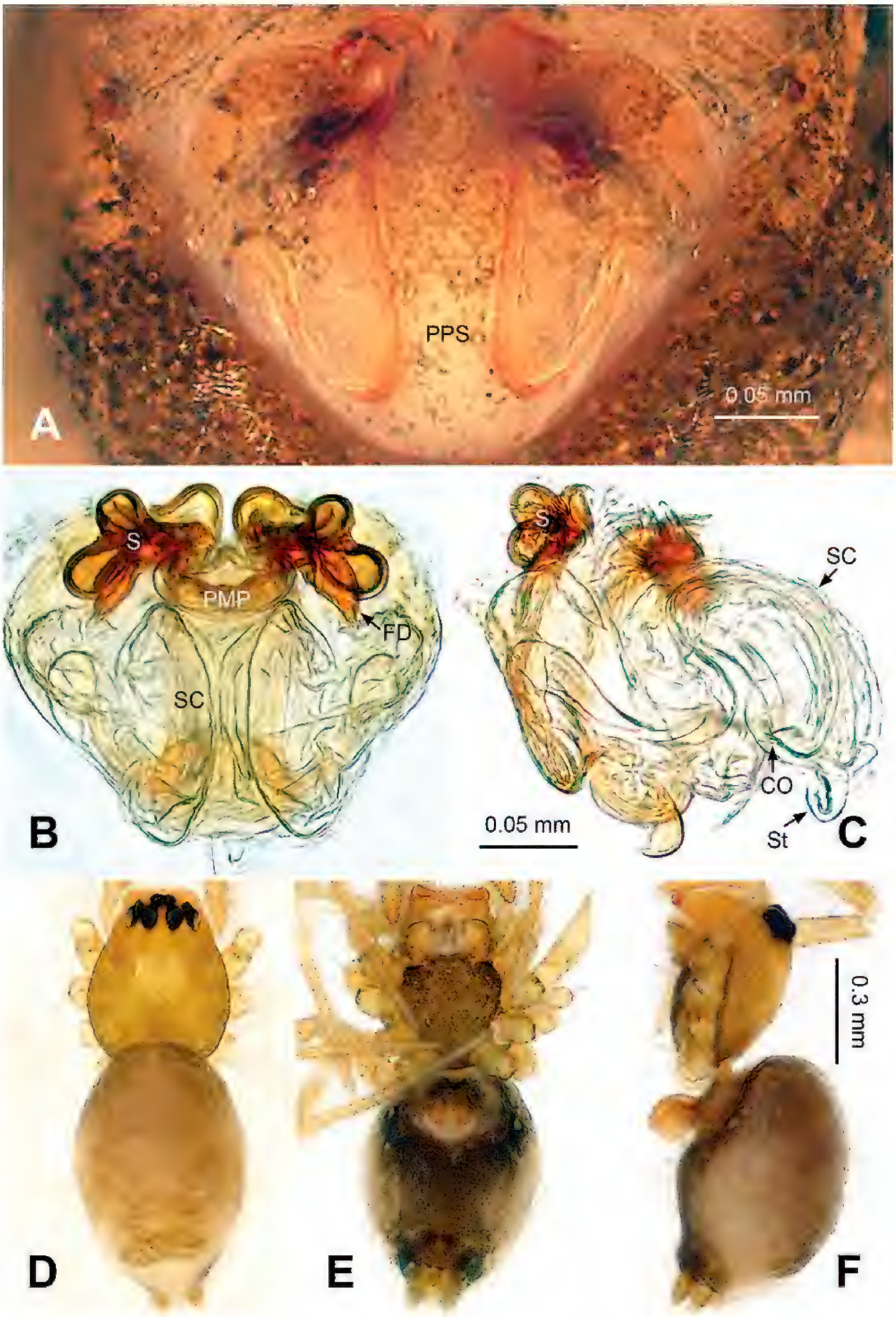


Figure 56. *Maro bulbosus* sp. n., female holotype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, lateral view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **D** and **E** as **F**.

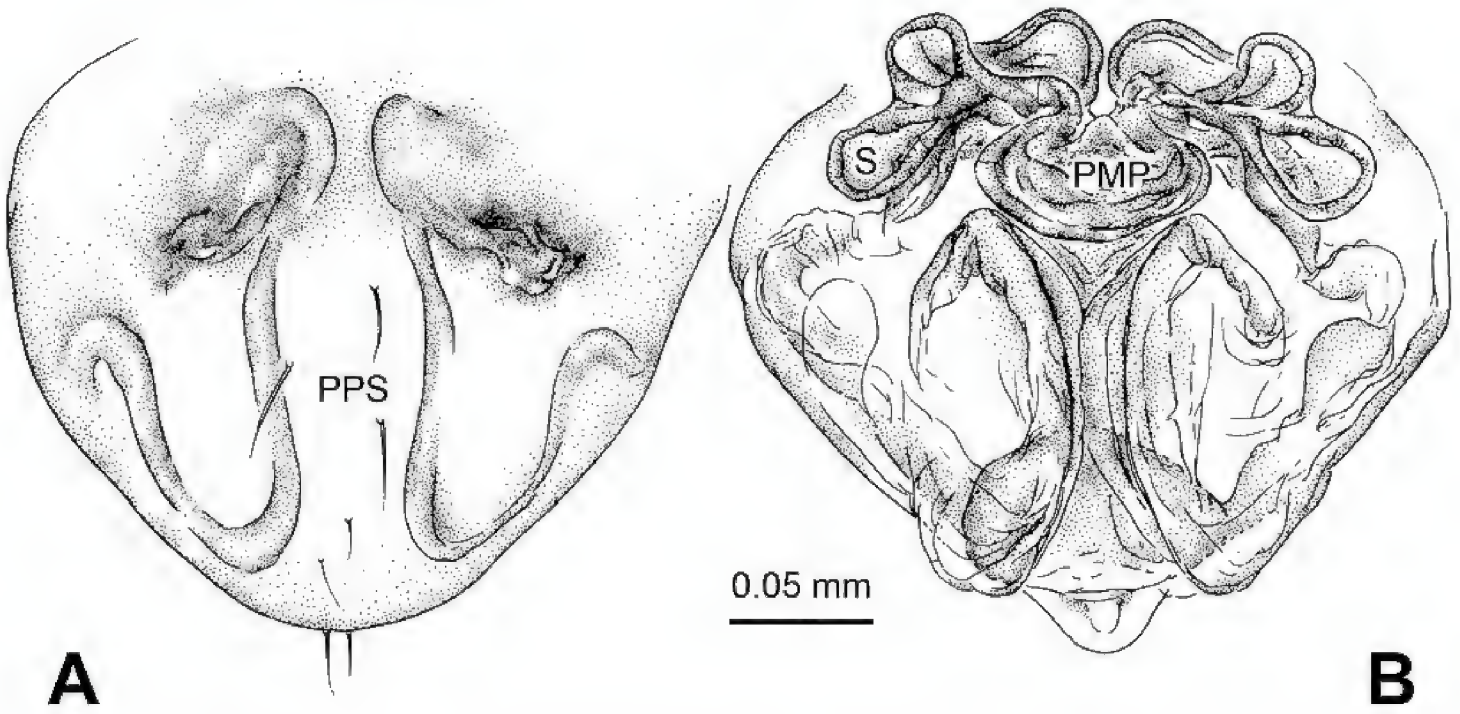


Figure 57. *Maro bulbosus* sp. n., female holotype. **A** Epigyne, ventral view **B** Vulva, dorsal view Scale bar: **A** as **B**.

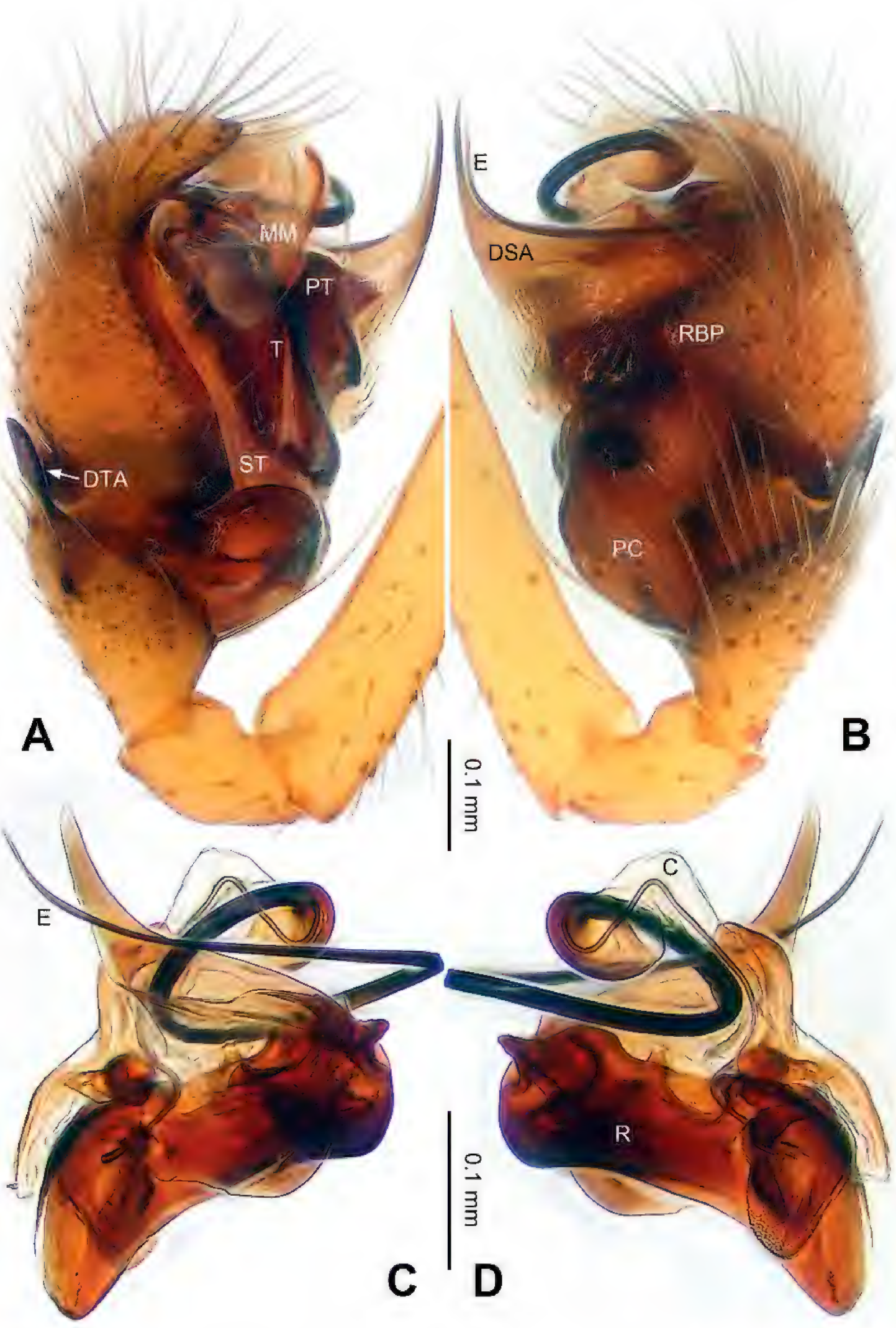


Figure 58. *Nasoonaria circinata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, ventral view **D** Embolic division, dorsal view. Scale bars: **A** as **B**, **C** as **D**.

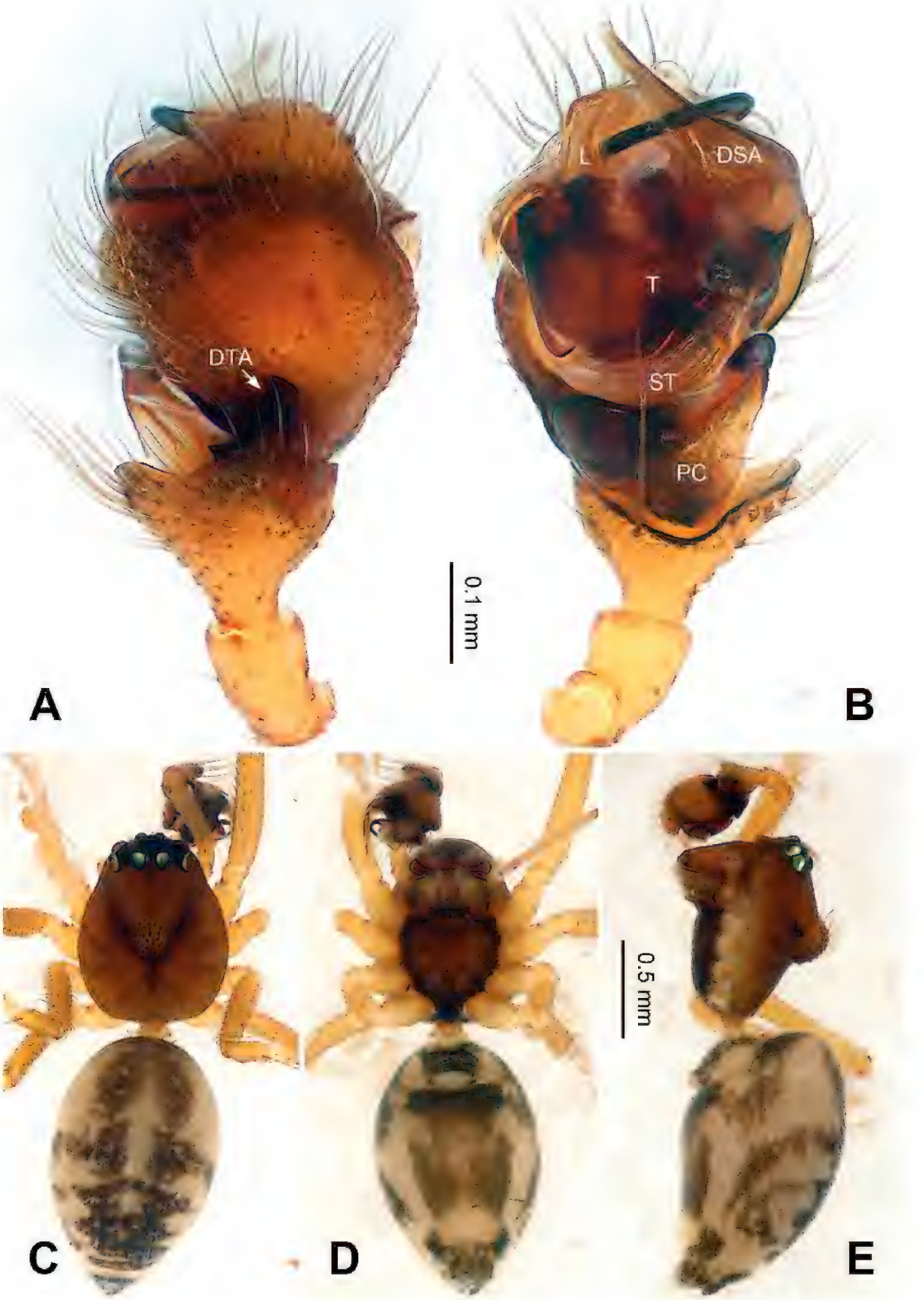


Figure 59. *Nasoonaria circinata* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **D** as **E**.

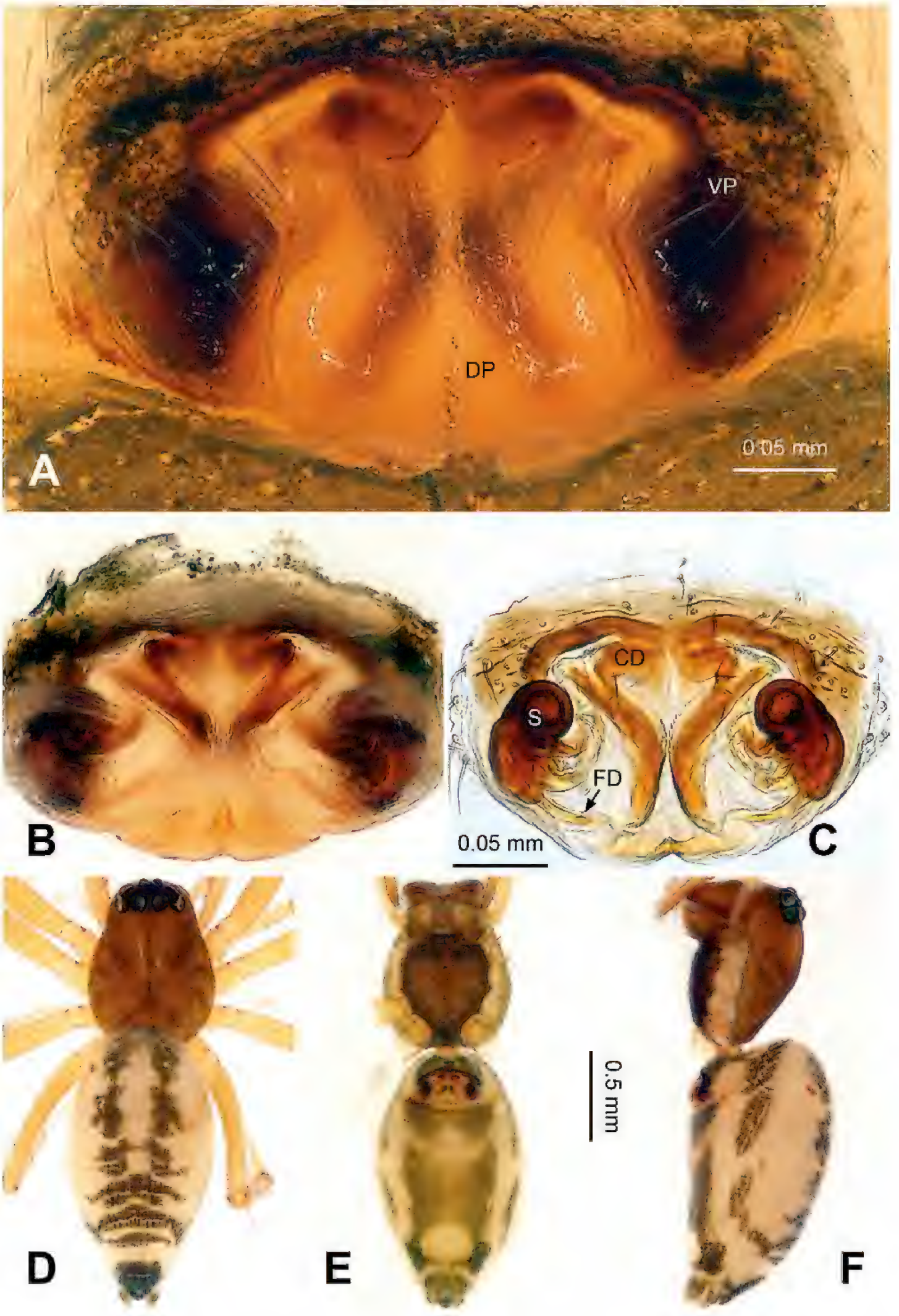


Figure 60. *Nasoonaria circinata* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **D** and **E** as **F**.

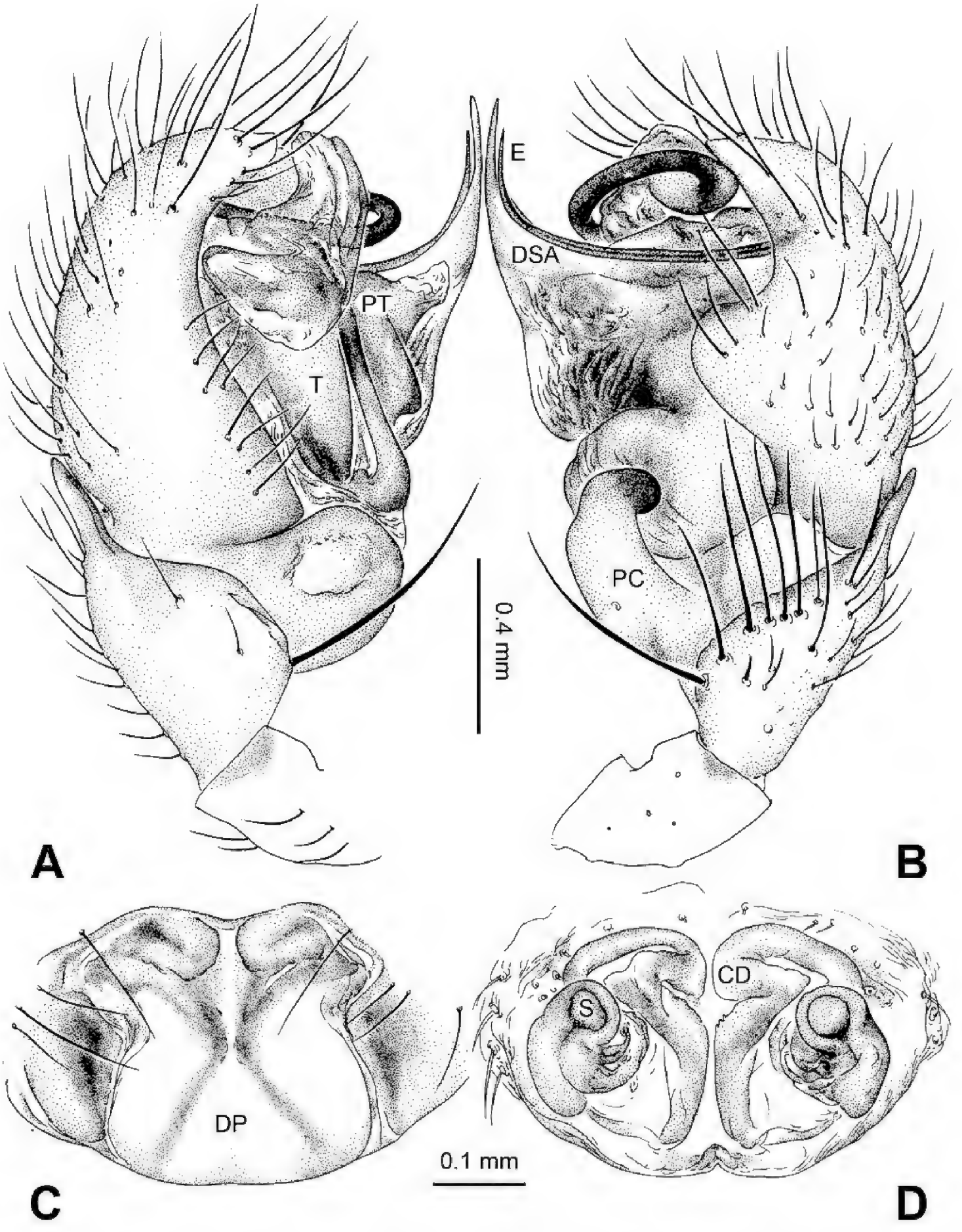


Figure 61. *Nasoonaria circinata* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **A** as **B**, **C** as **D**.

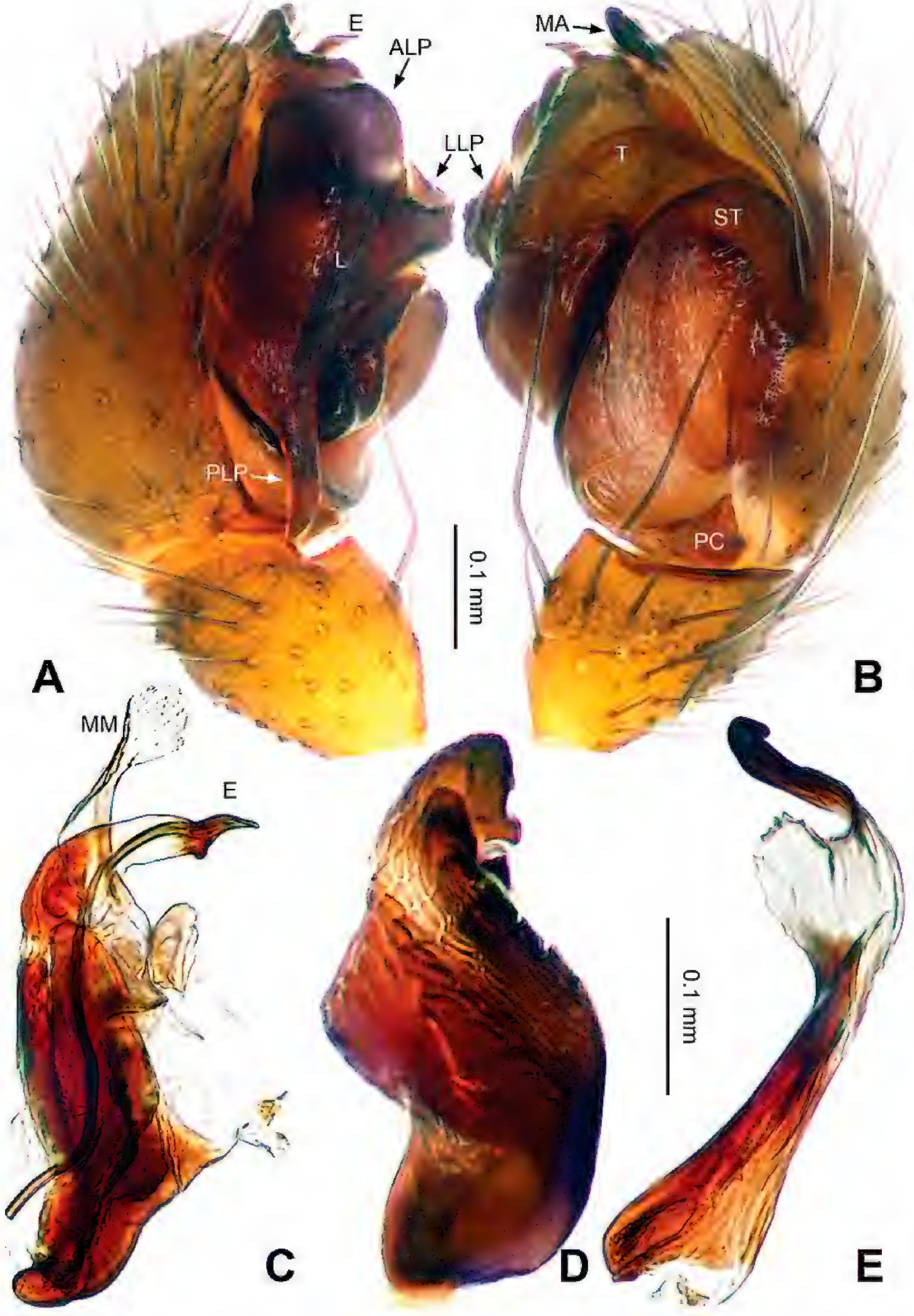


Figure 62. *Neriene circifolia* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolus, prolateral view **D** Terminal apophysis, prolateral view **E** Median apophysis, ventral view. Scale bars: **B** as **A**, **C** and **D** as **E**.

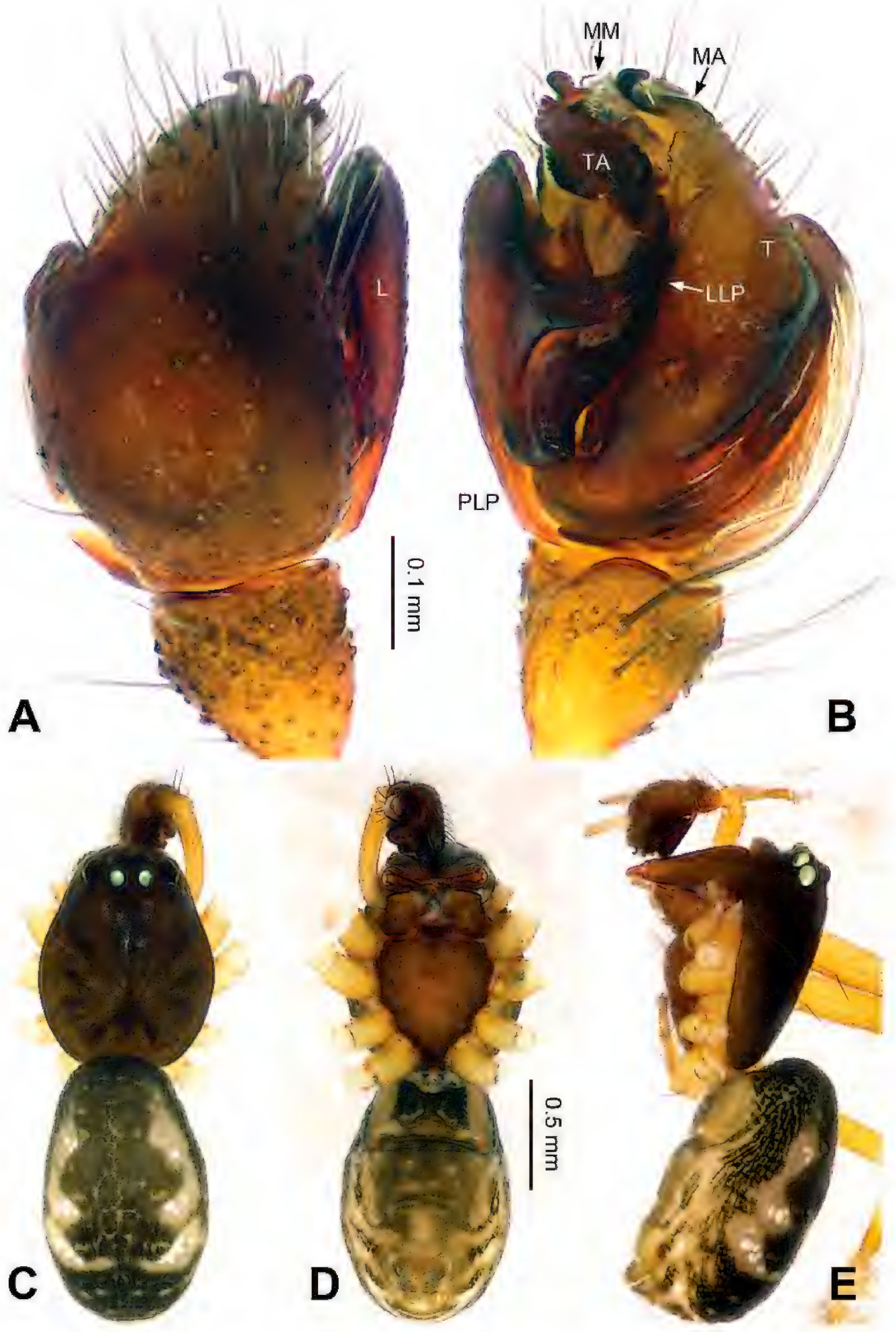


Figure 63. *Neriene circifolia* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **E** as **D**.

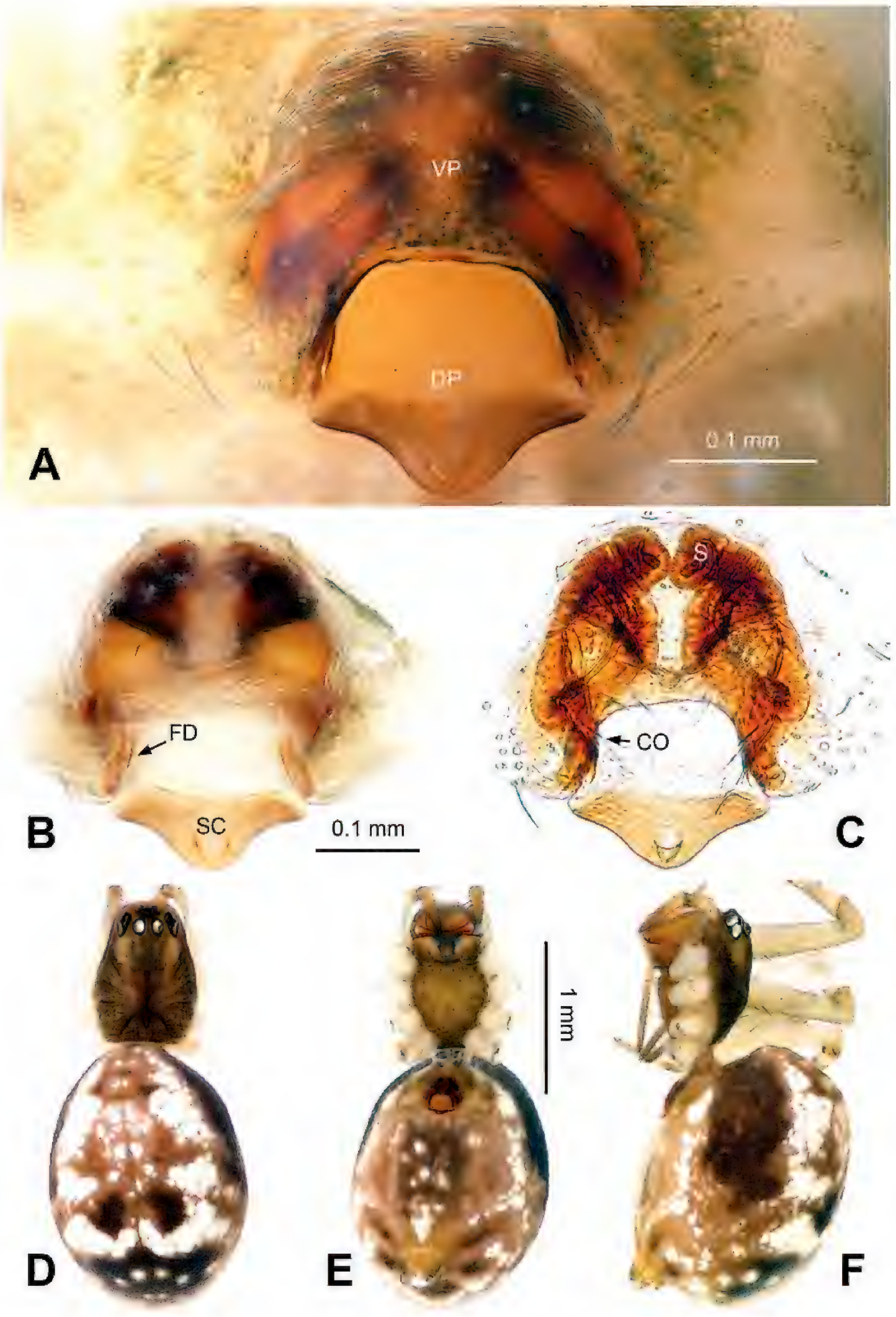


Figure 64. *Neriene circifolia* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B, D** and **F** as **E**.

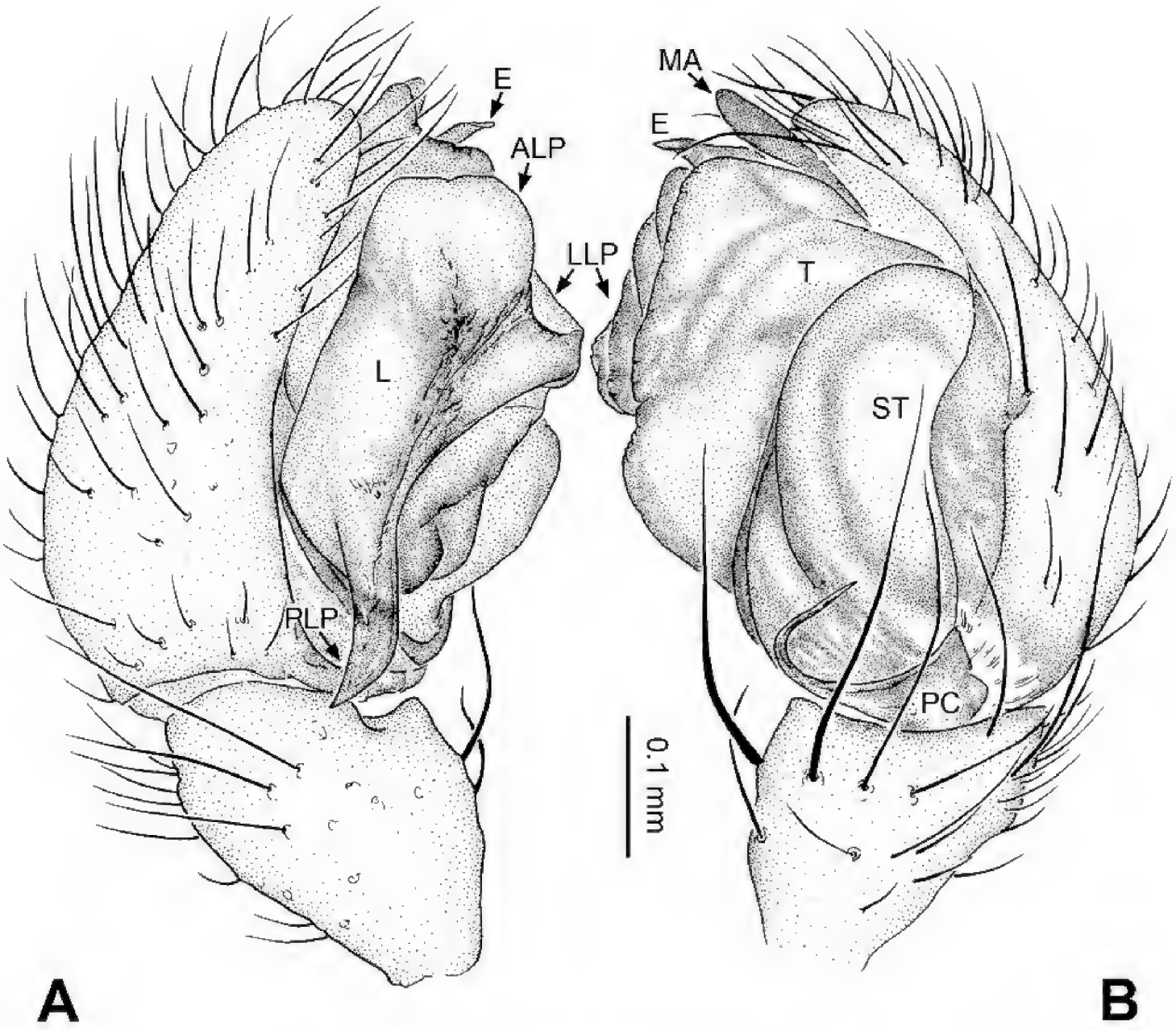


Figure 65. *Neriene circifolia* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **A** as **B**.

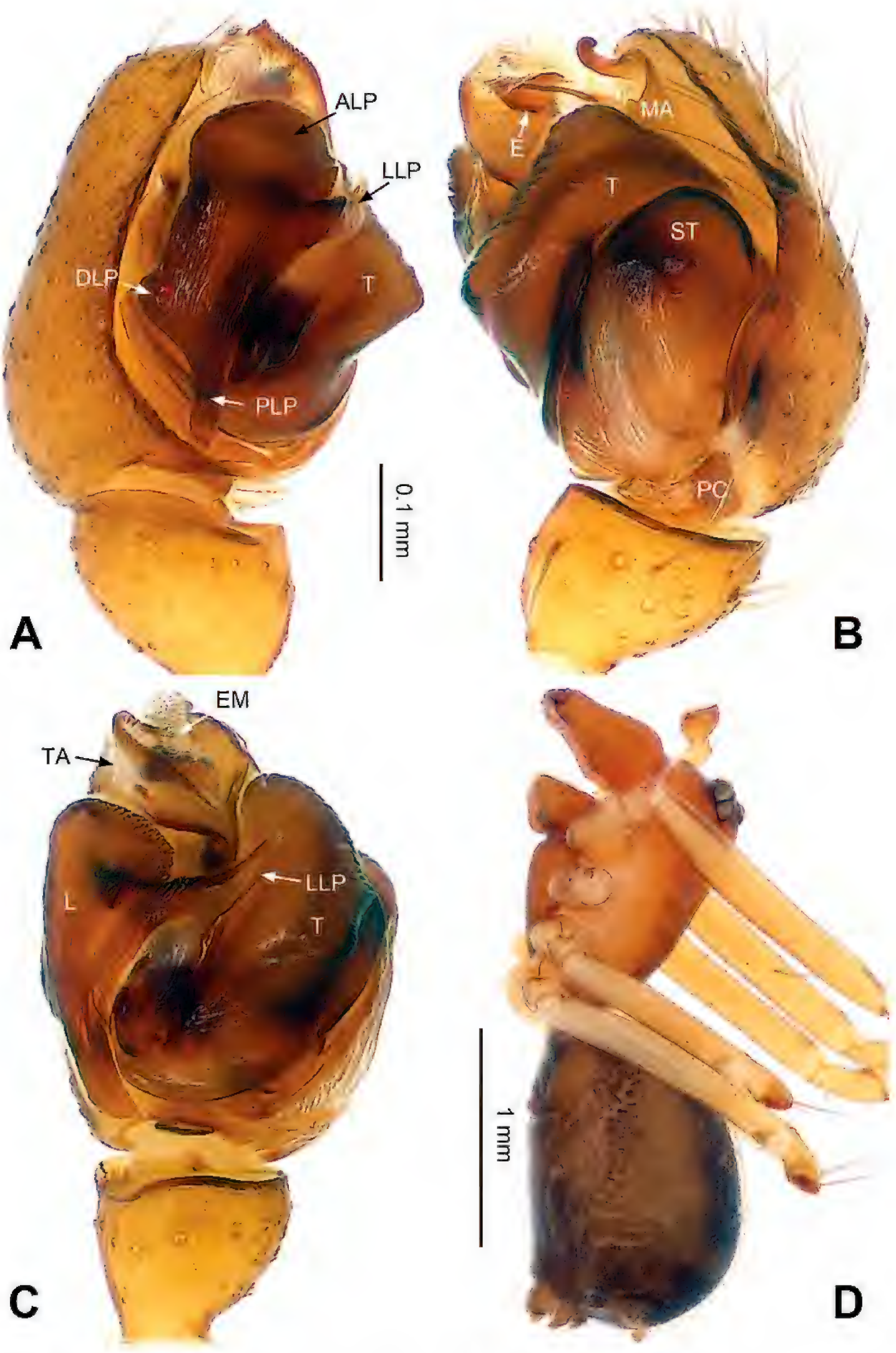


Figure 66. *Ambengana complexipalpis*, male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Palp, ventral view **D** Habitus, lateral view. Scale bar: **A** and **C** as **B**.

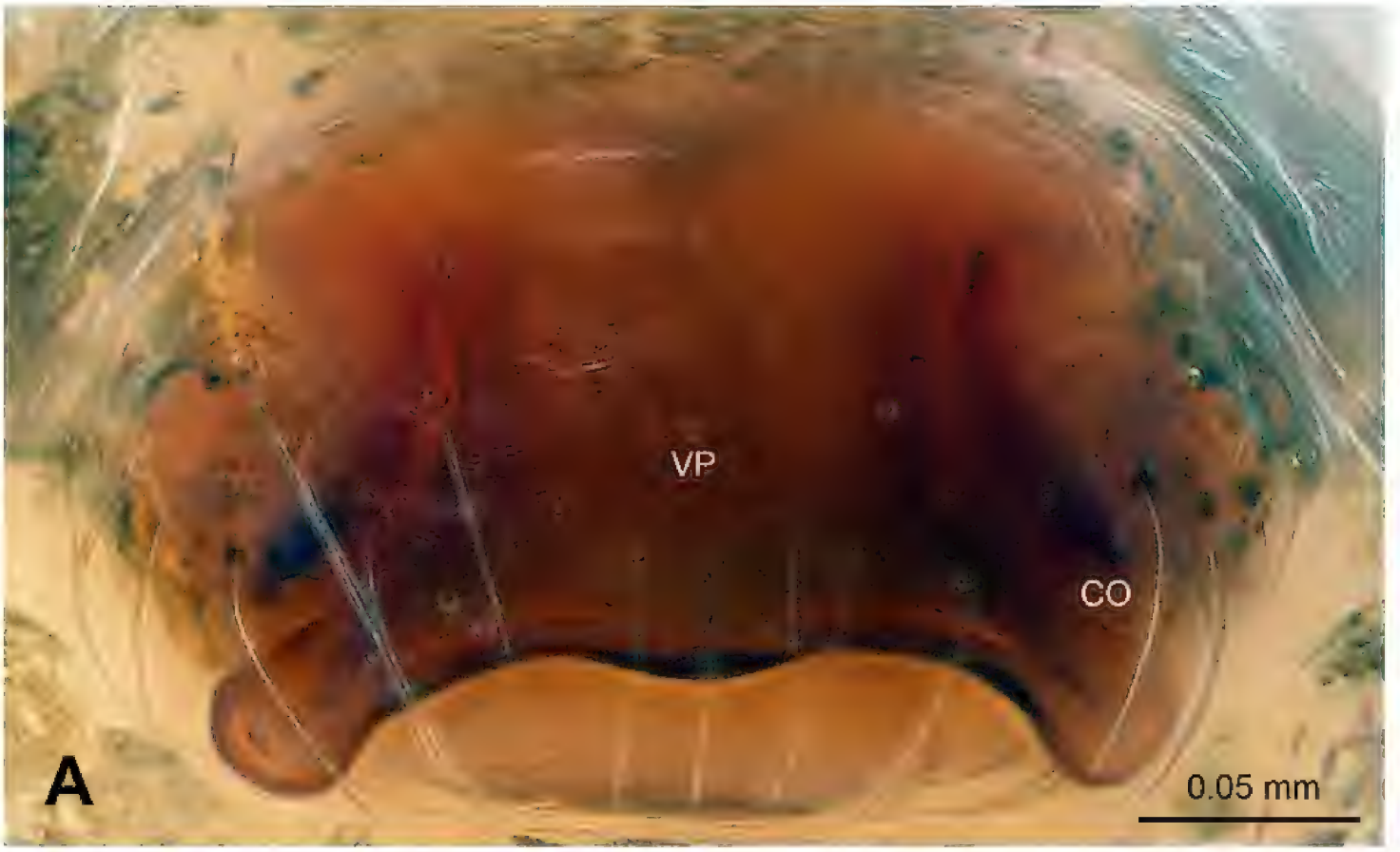


Figure 67. *Oedothorax biantu* sp. n., female holotype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

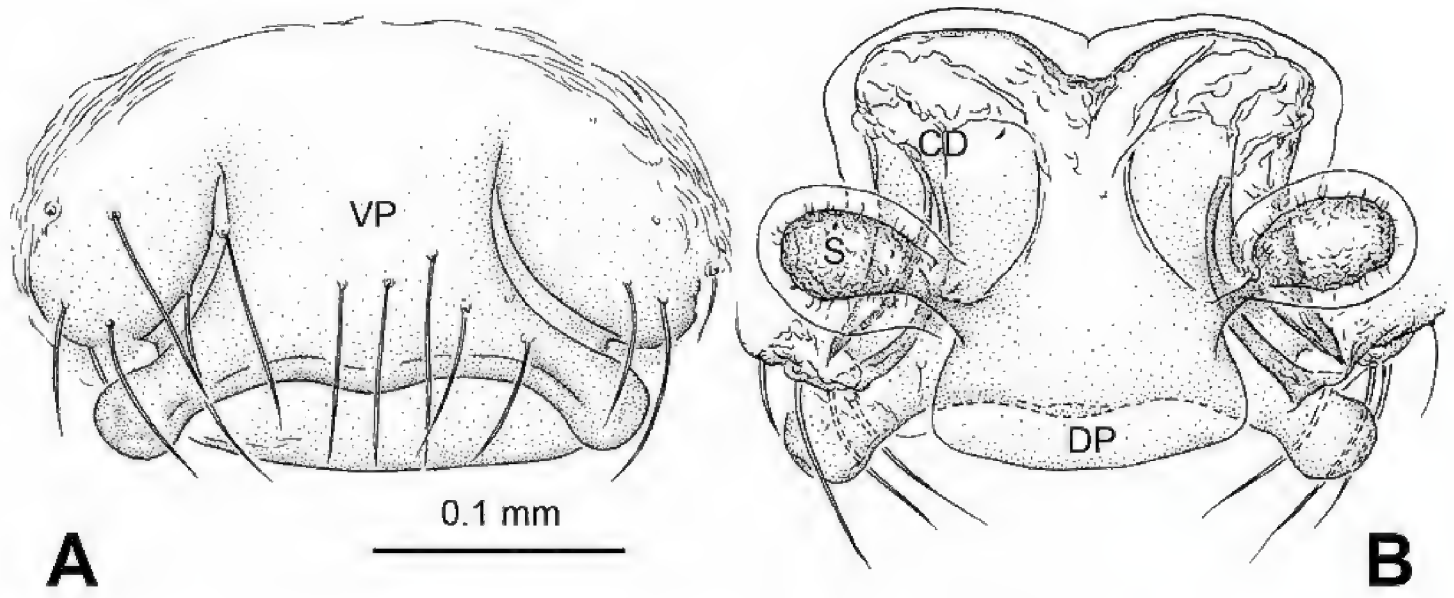


Figure 68. *Oedothorax biantu* sp. n., female holotype. **A** Epigyne, ventral view **B** Vulva, dorsal view Scale bar: **B** as **A**.

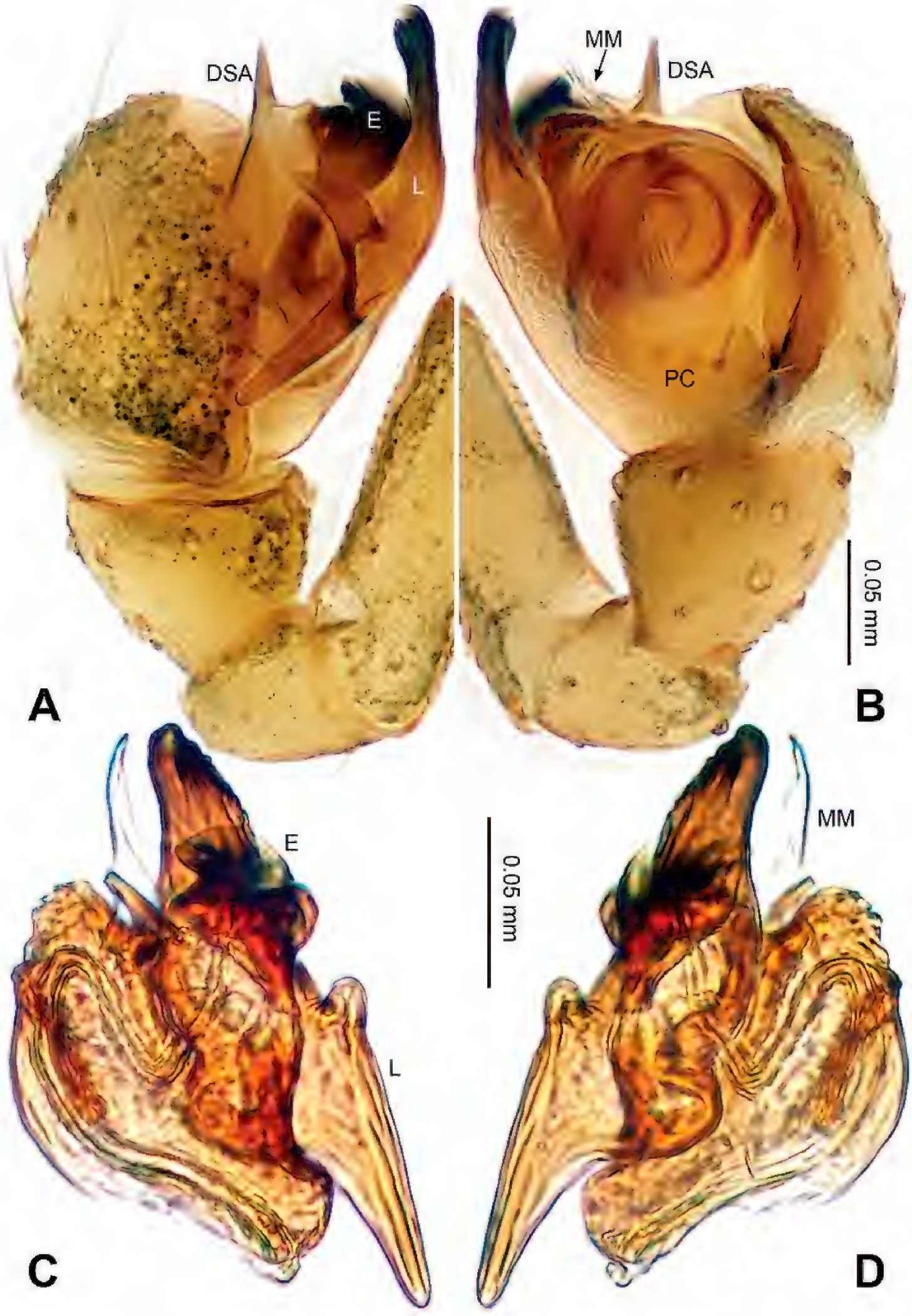


Figure 69. *Oilinyphia hengji* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, dorsal view **D** Embolic division, ventral view. Scale bars: **A** as **B**, **C** as **D**.

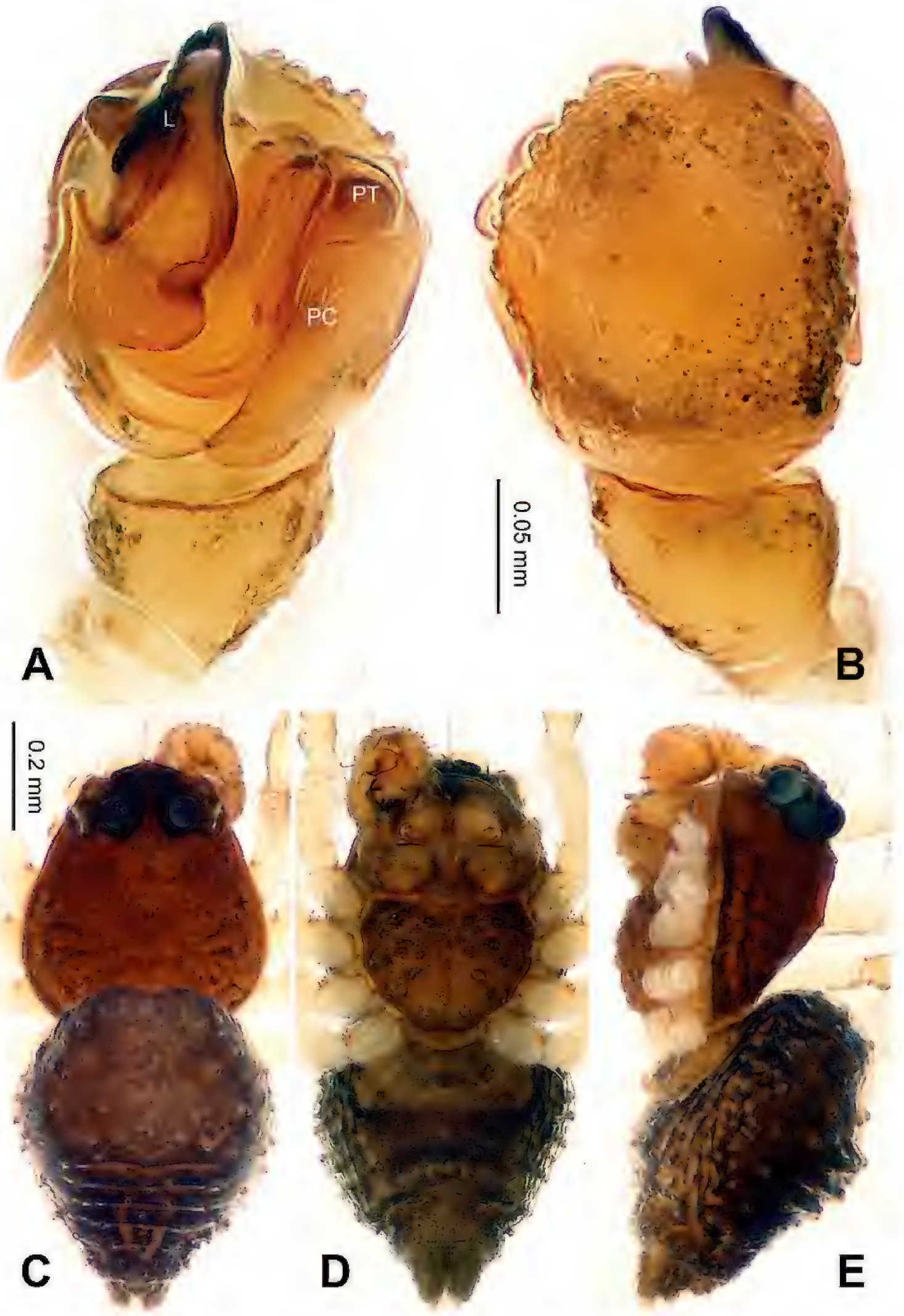


Figure 70. *Oilinyphia hengji* sp. n., male holotype. **A** Palp, ventral view **B** Palp, dorsal view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **D** and **E** as **C**.

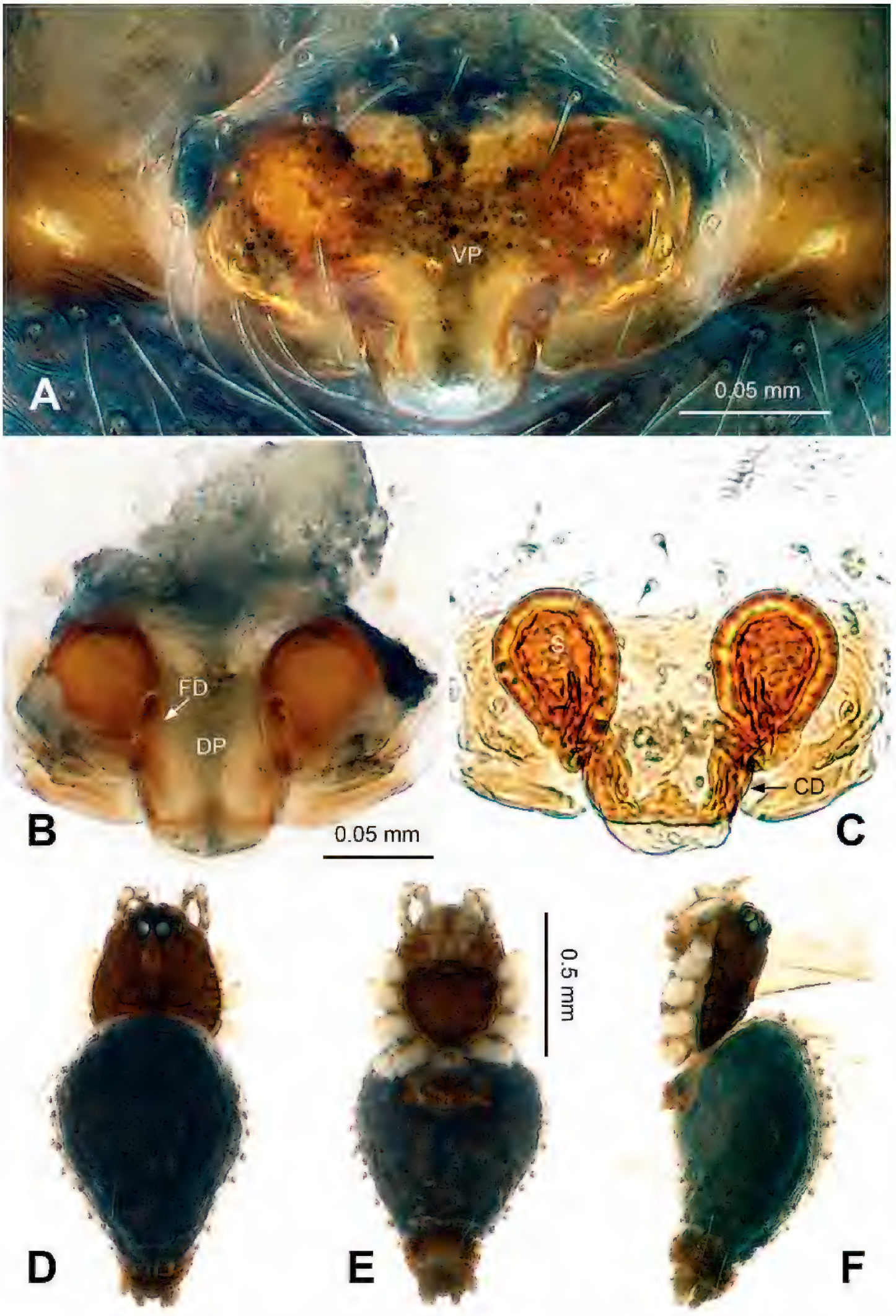


Figure 71. *Oilinyphia hengji* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **F** as **E**.

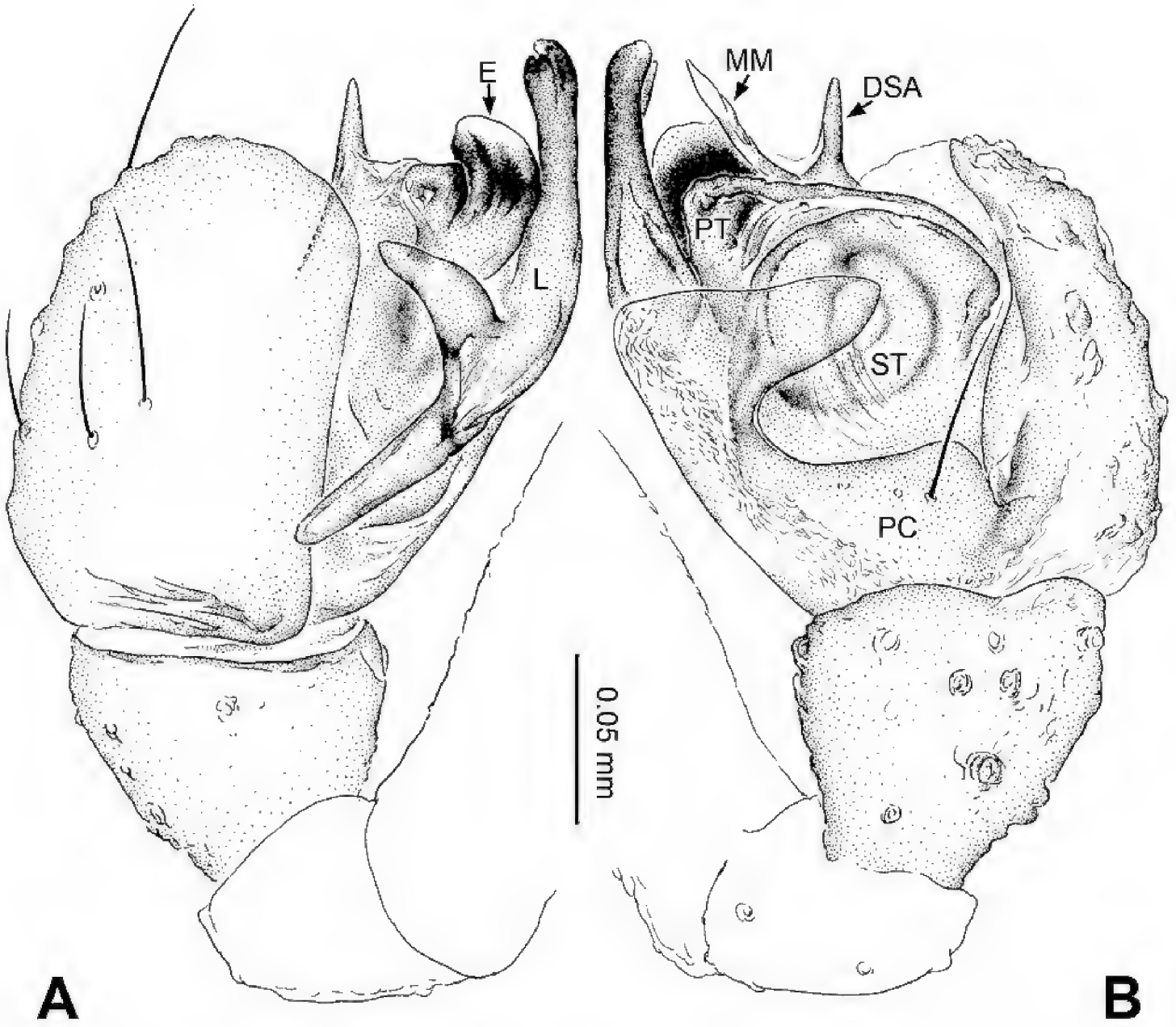


Figure 72. *Oilinyphia hengji* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **A** as **B**.

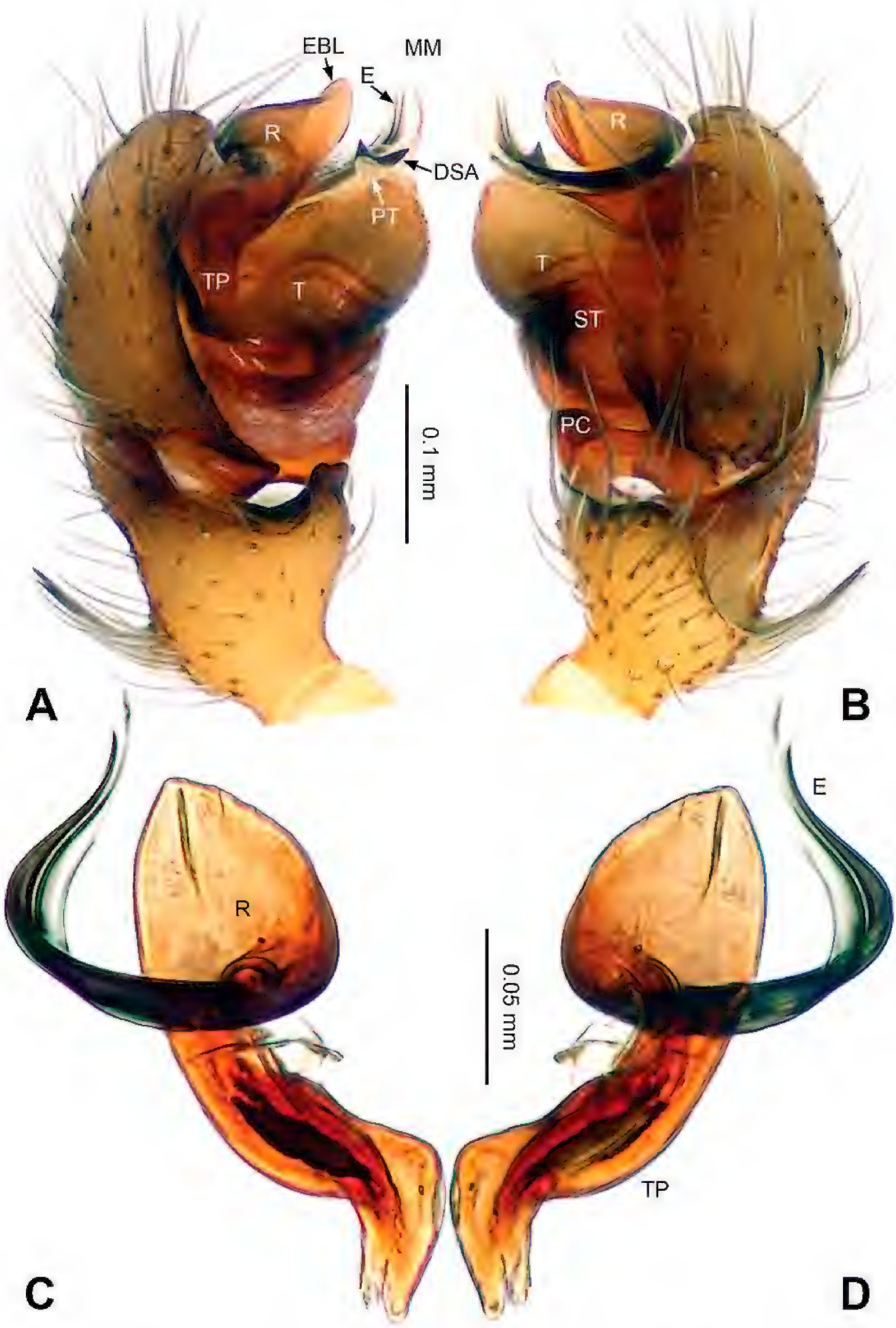


Figure 73. *Paikiniana furcata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, prolateral view. Scale bars: **B** as **A**, **C** as **D**.

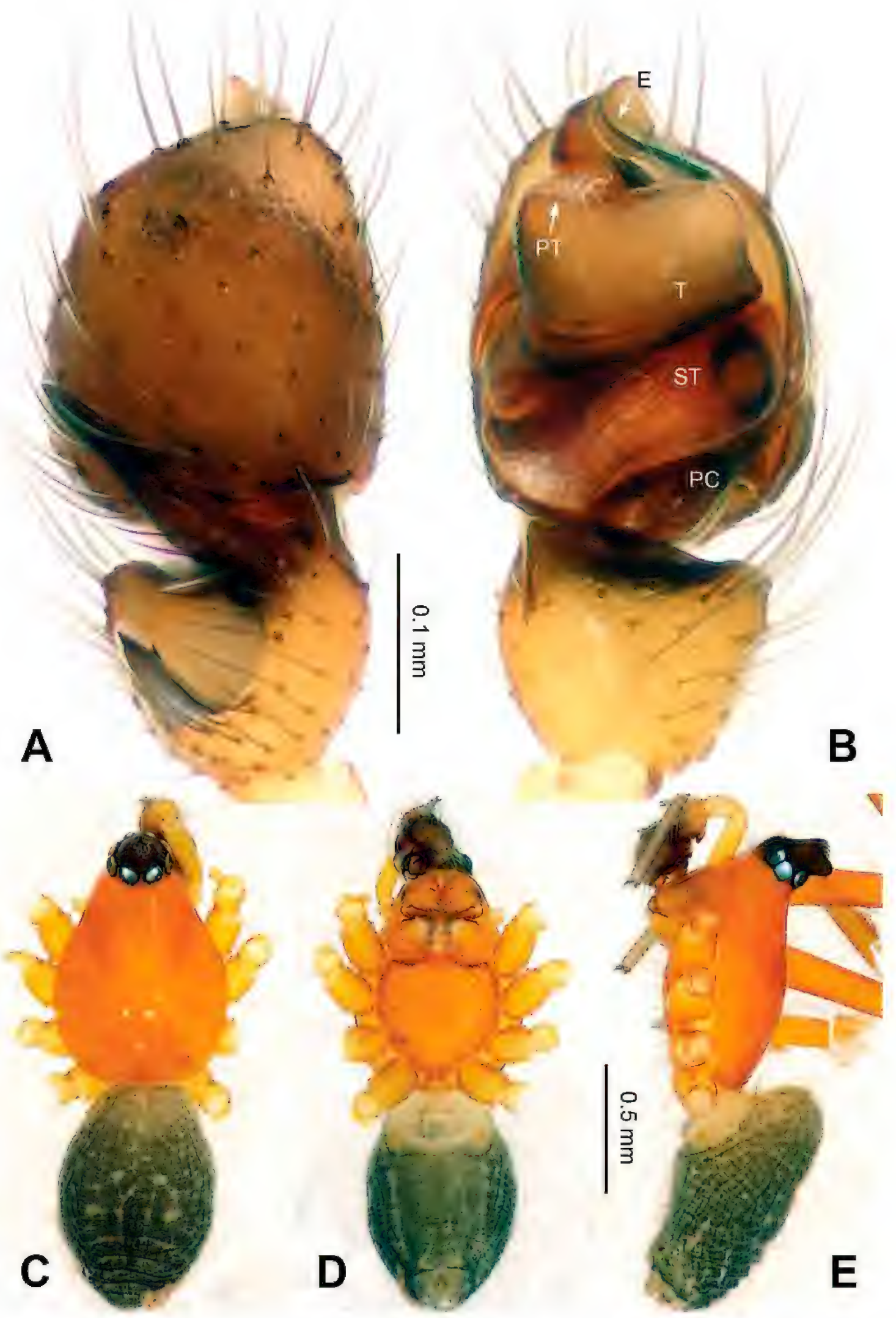


Figure 74. *Paikiniana furcata* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **D** as **E**.

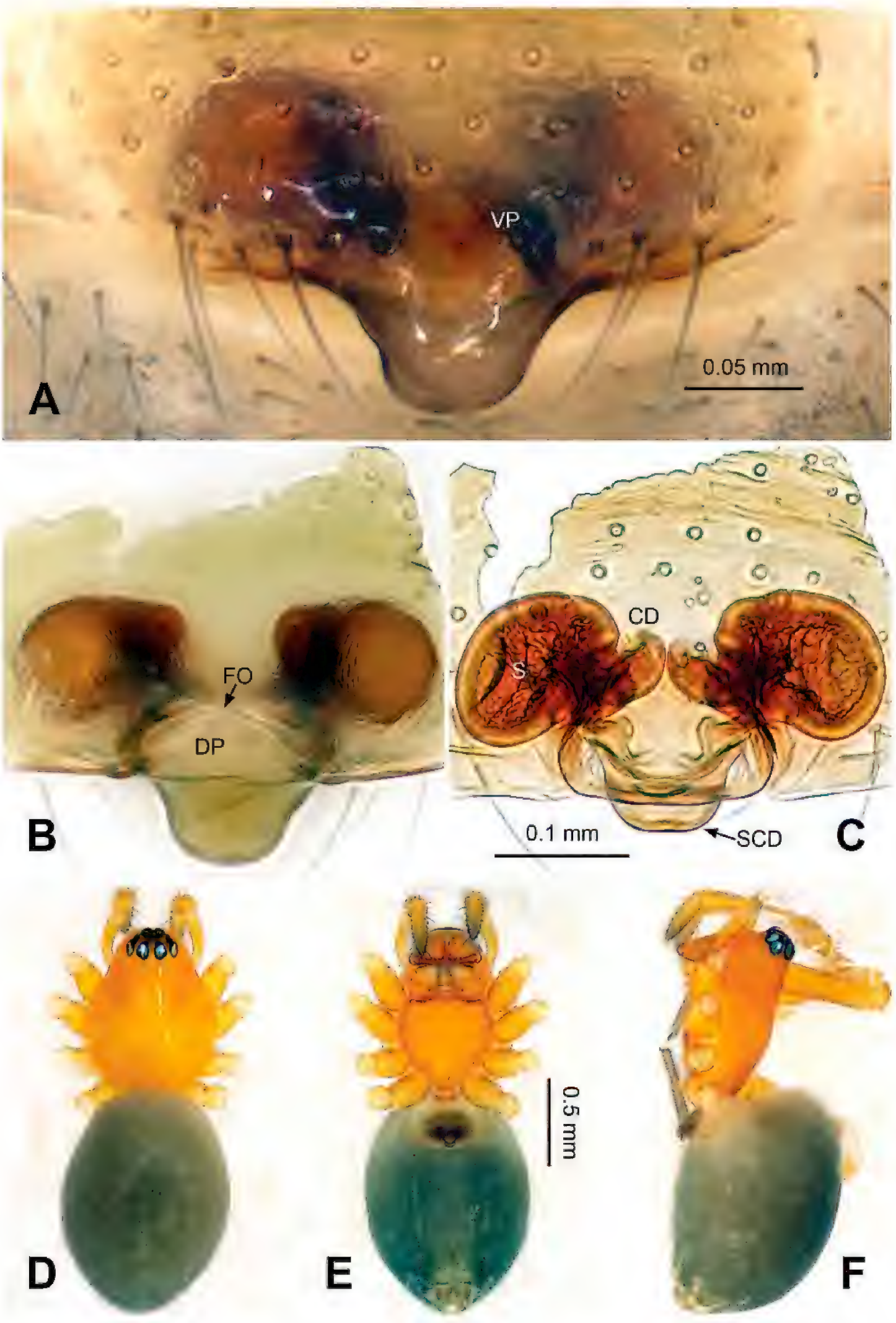


Figure 75. *Paikiniana furcata* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **D** and **F** as **E**.

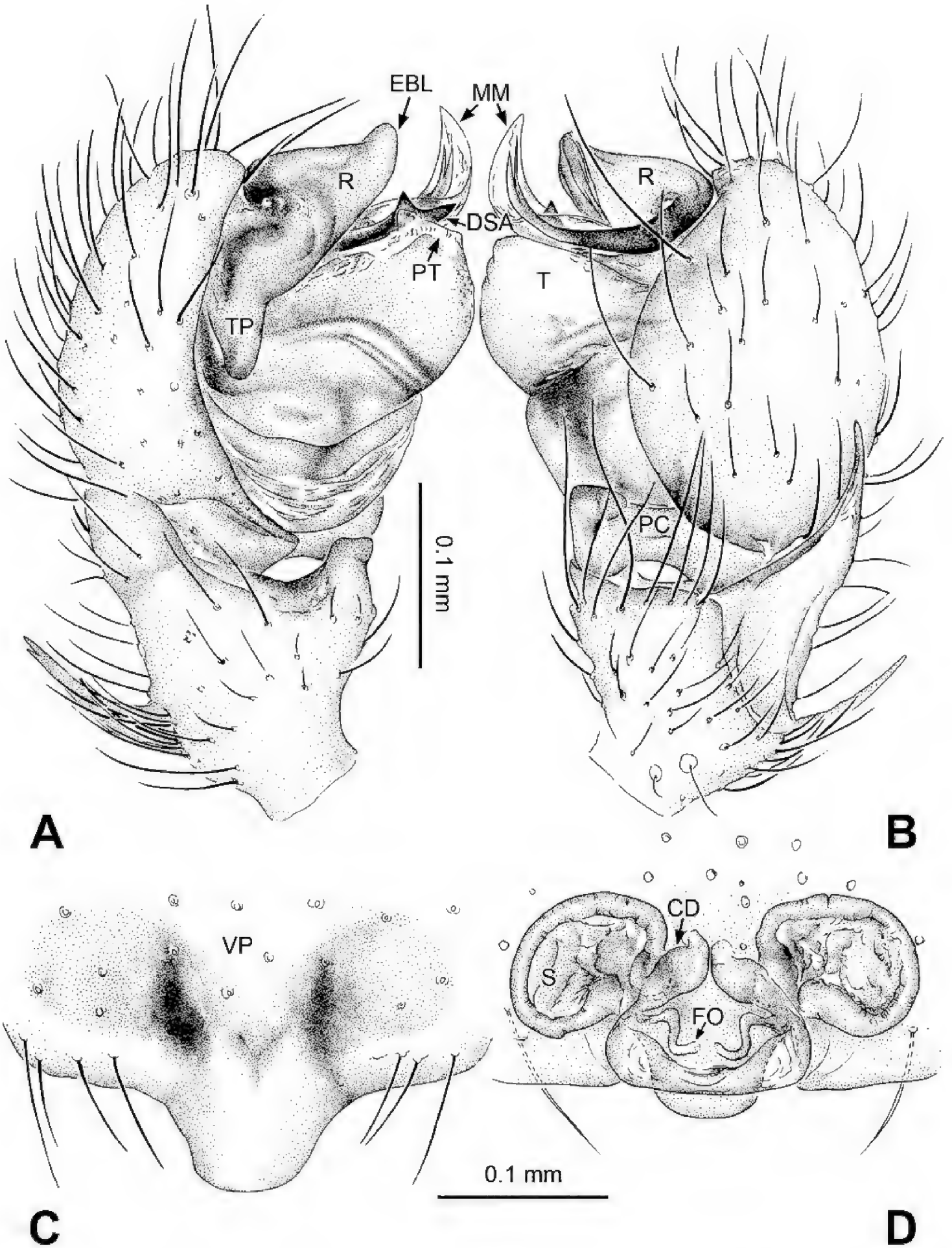


Figure 76. *Paikiniana furcata* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bar: **B** as **A**, **C** as **D**.

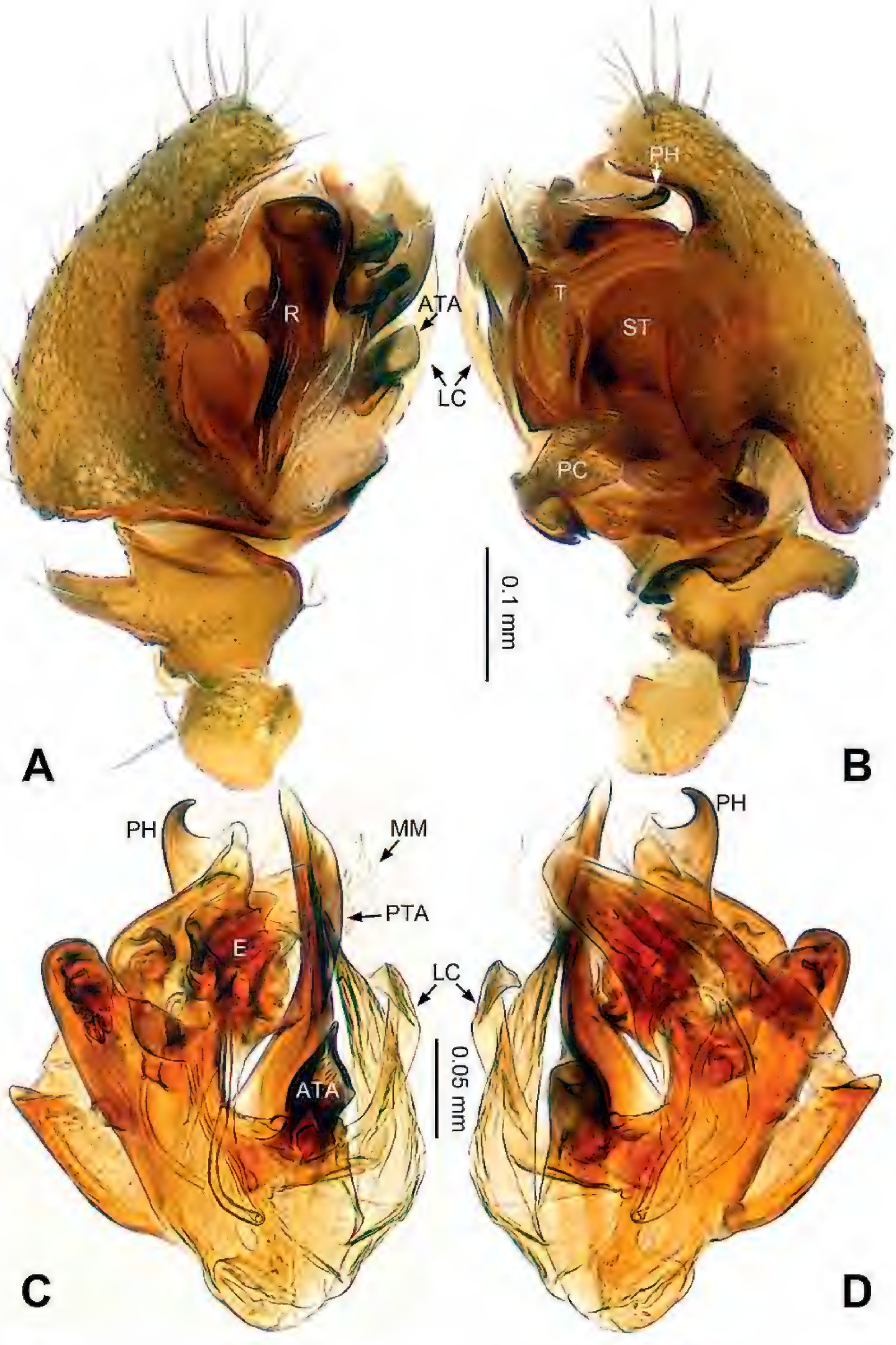


Figure 77. *Parameioneta bishou* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, prolateral view **D** Embolic division, retrolateral view. Scale bars: **A** as **B**, **C** as **D**.

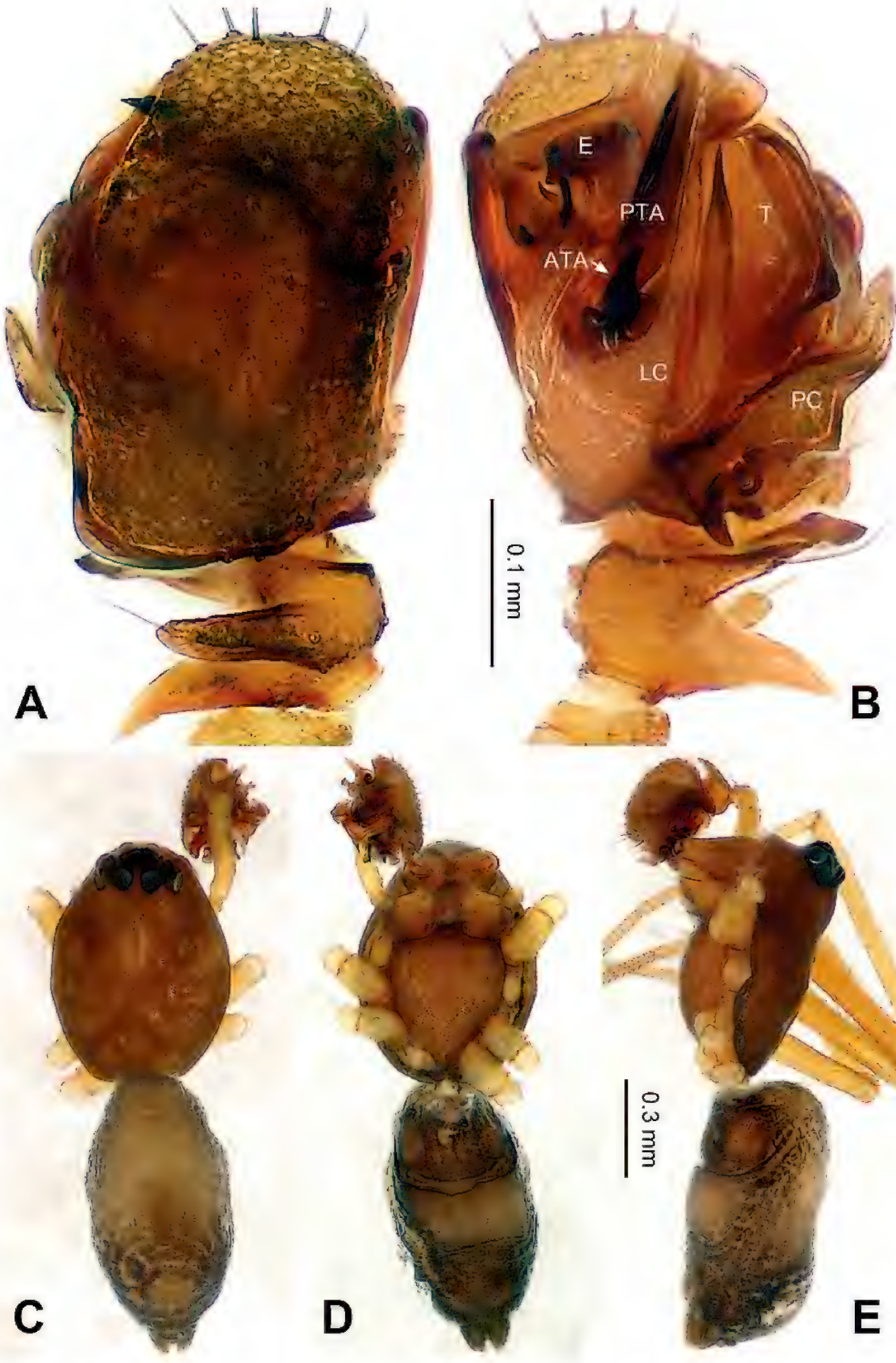


Figure 78. *Parameioneta bishou* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **D** as **E**.

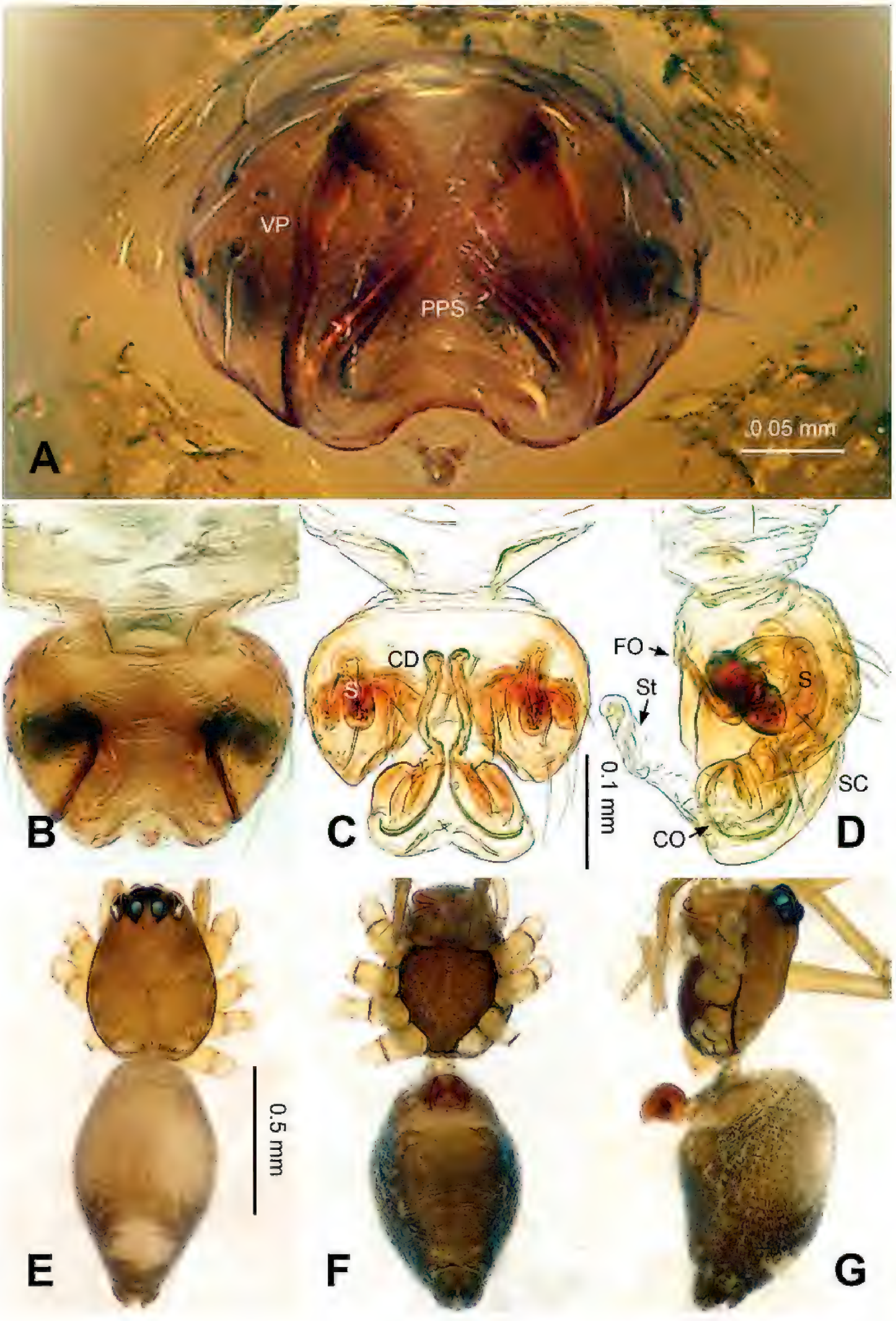


Figure 79. *Parameioneta bishou* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Vulva, lateral view **E** Habitus, dorsal view **F** Habitus, ventral view **G** Habitus lateral view. Scale bars: **B** and **D** as **C, F** and **G** as **E**.

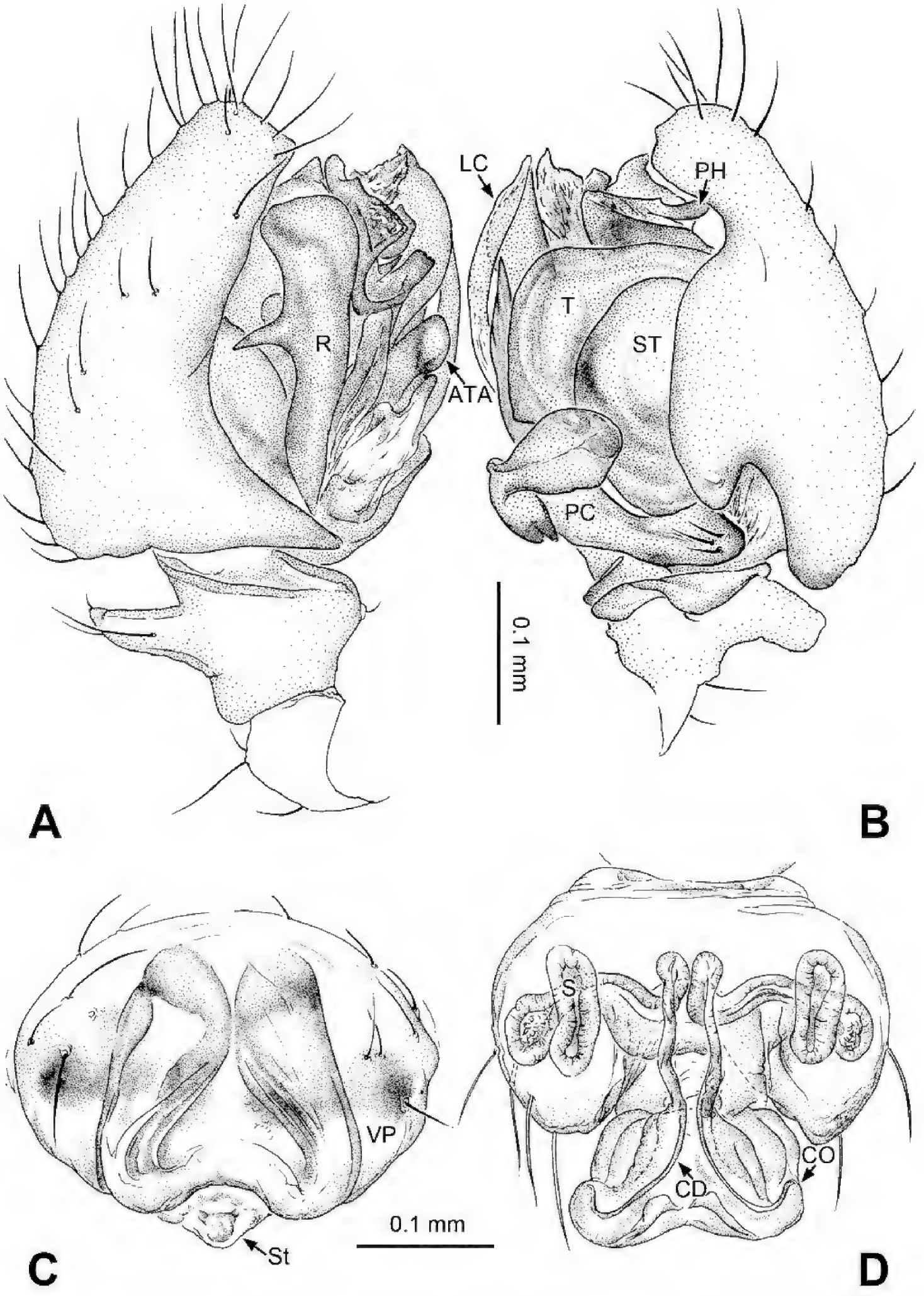


Figure 80. *Parameioneta bishou* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Palp, prolateral view **B** Palp, retrolateral view. **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **A** as **B**, **D** as **C**.

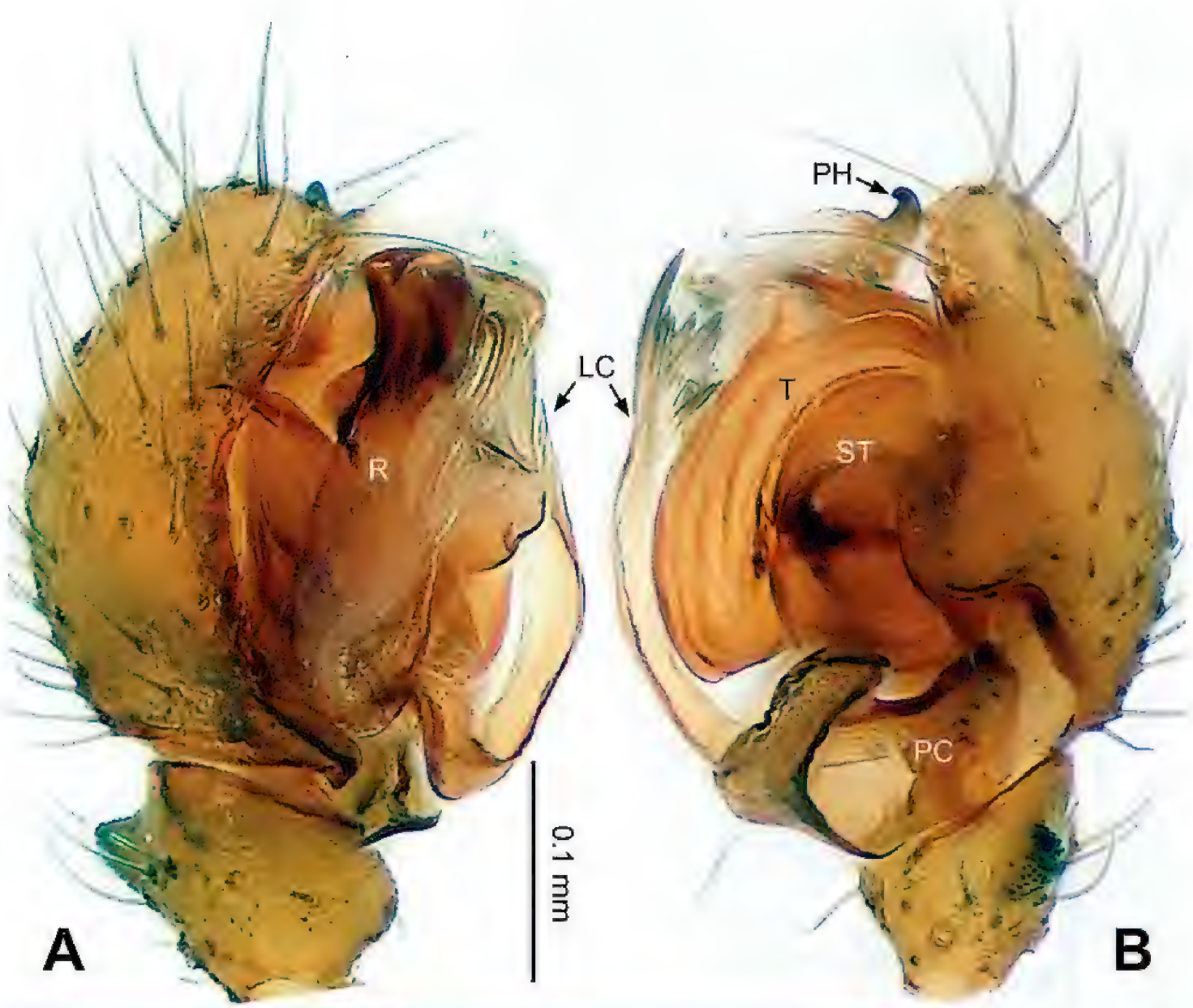


Figure 81. *Parameioneta multifida* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, prolateral view **D** Embolic division, retrolateral view. Scale bars: **B** as **A**, **D** as **C**.

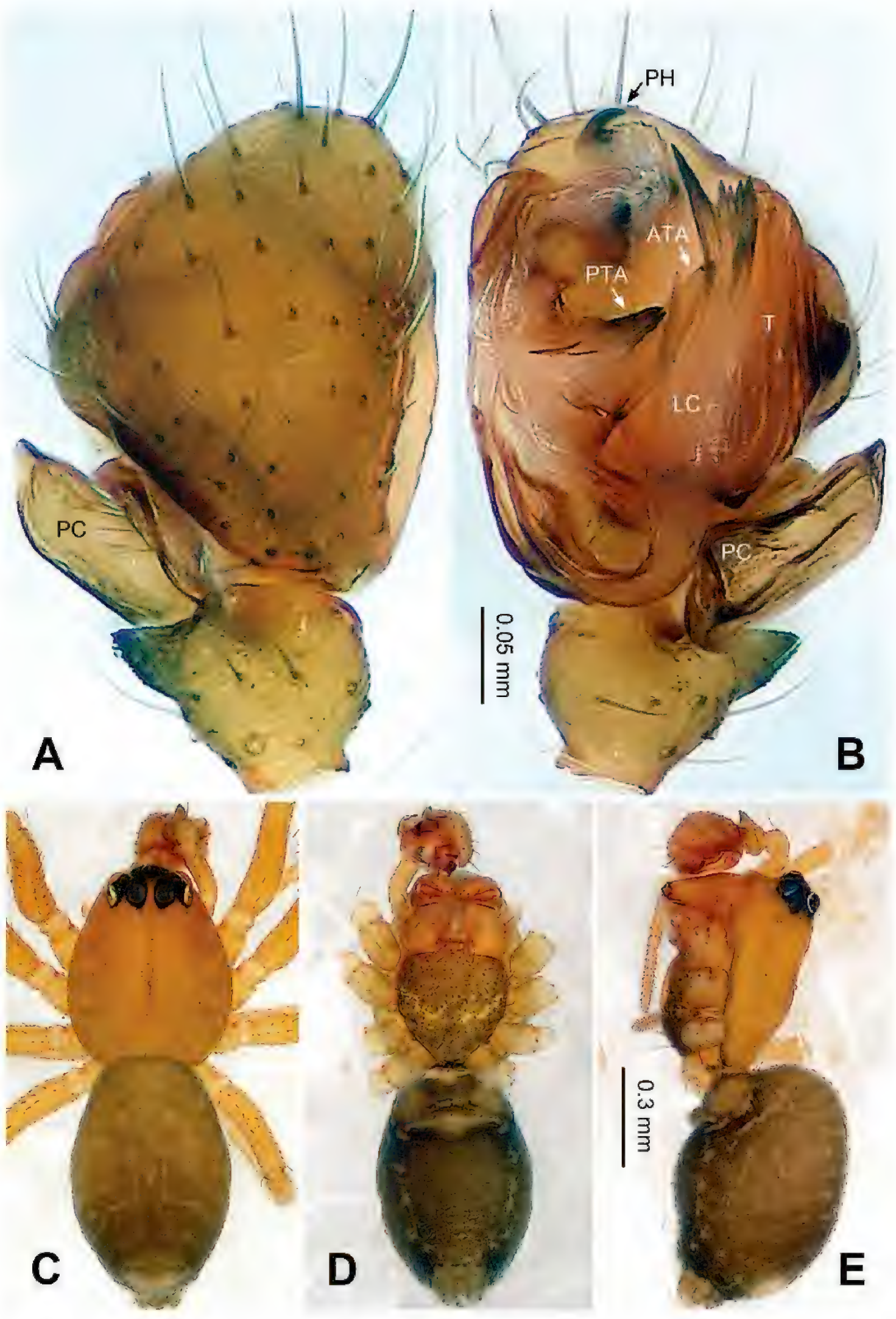


Figure 82. *Parameioneta multifida* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **D** as **E**.

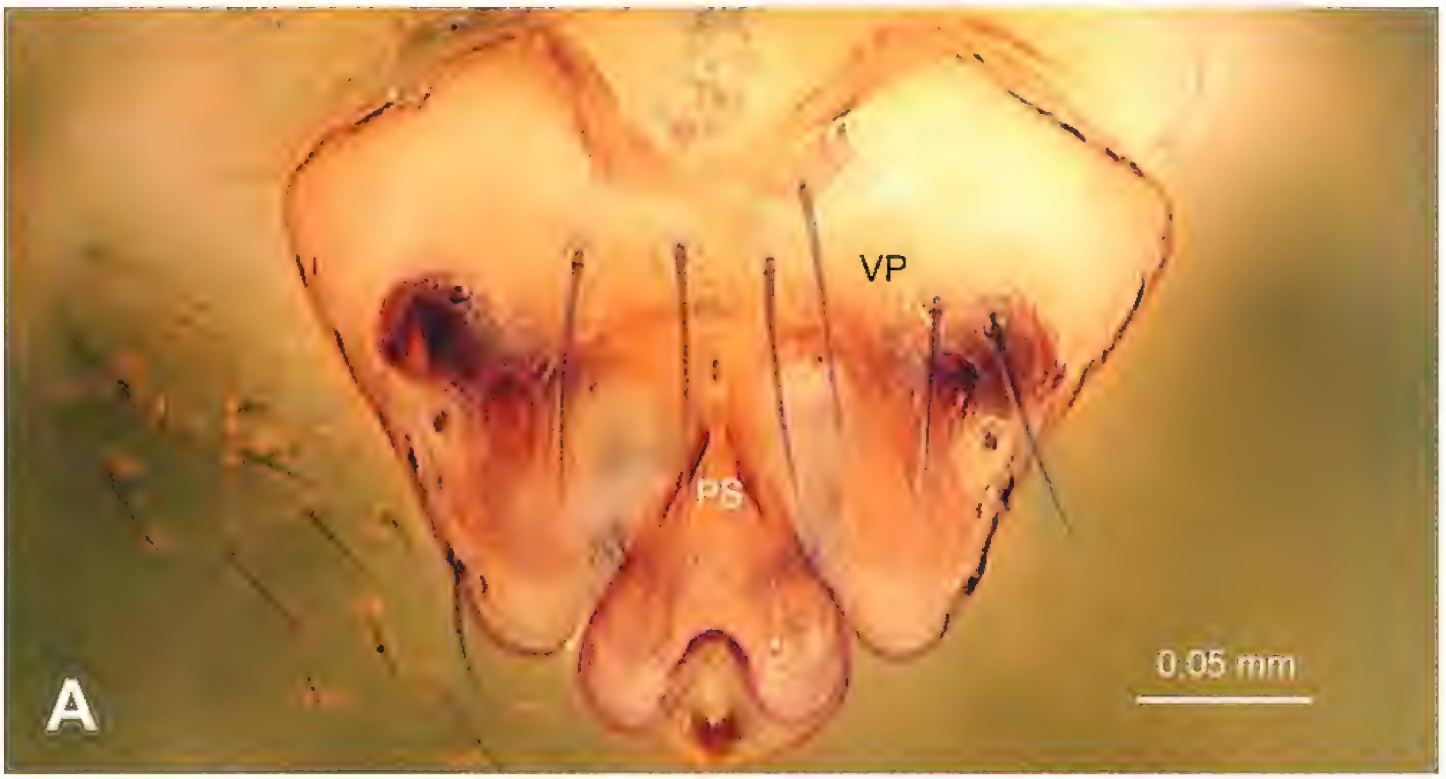


Figure 83. *Parameioneta multifida* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **D** and **E** as **F**.

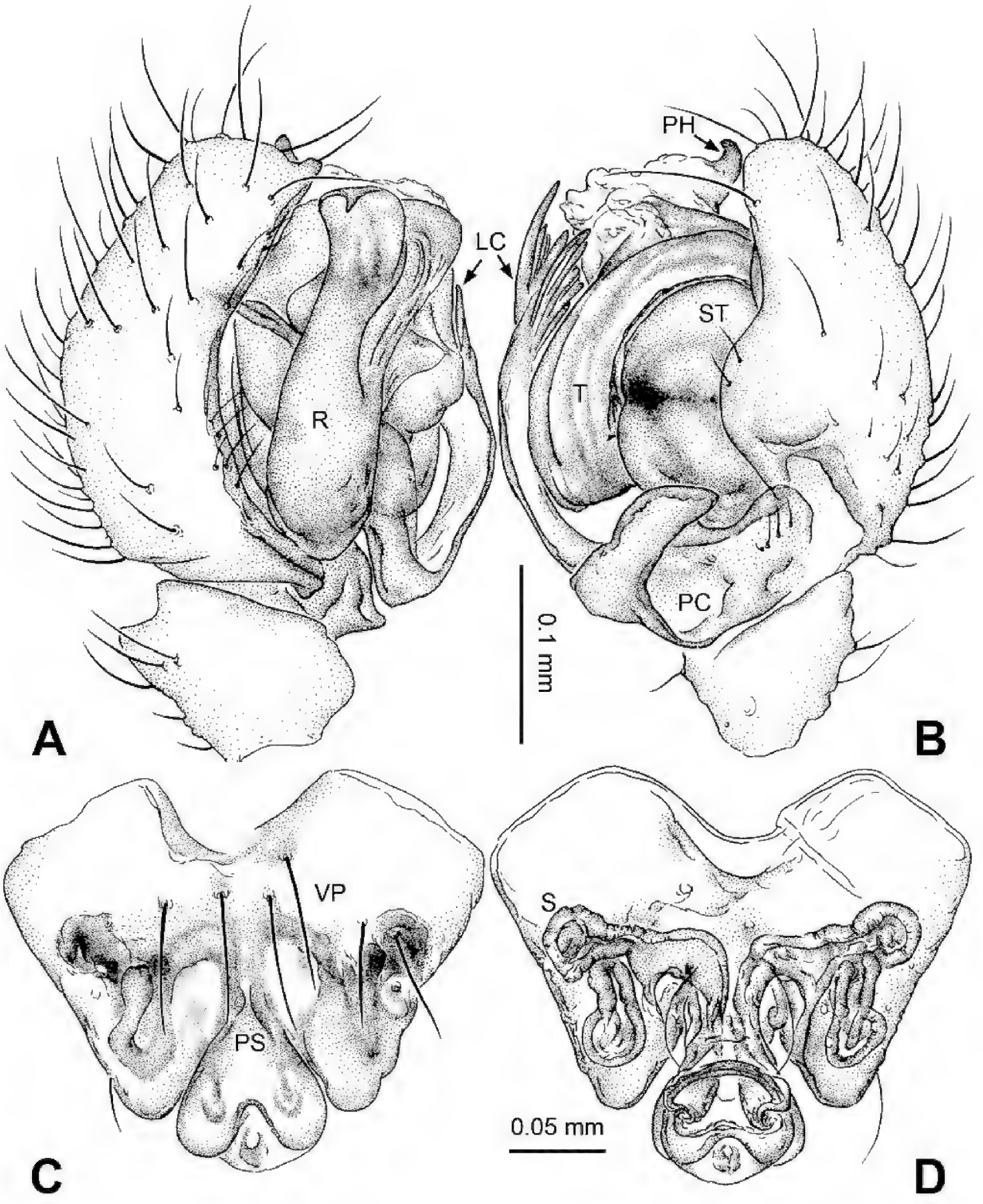


Figure 84. *Parameioneta multifida* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **A** as **B**, **C** as **D**.

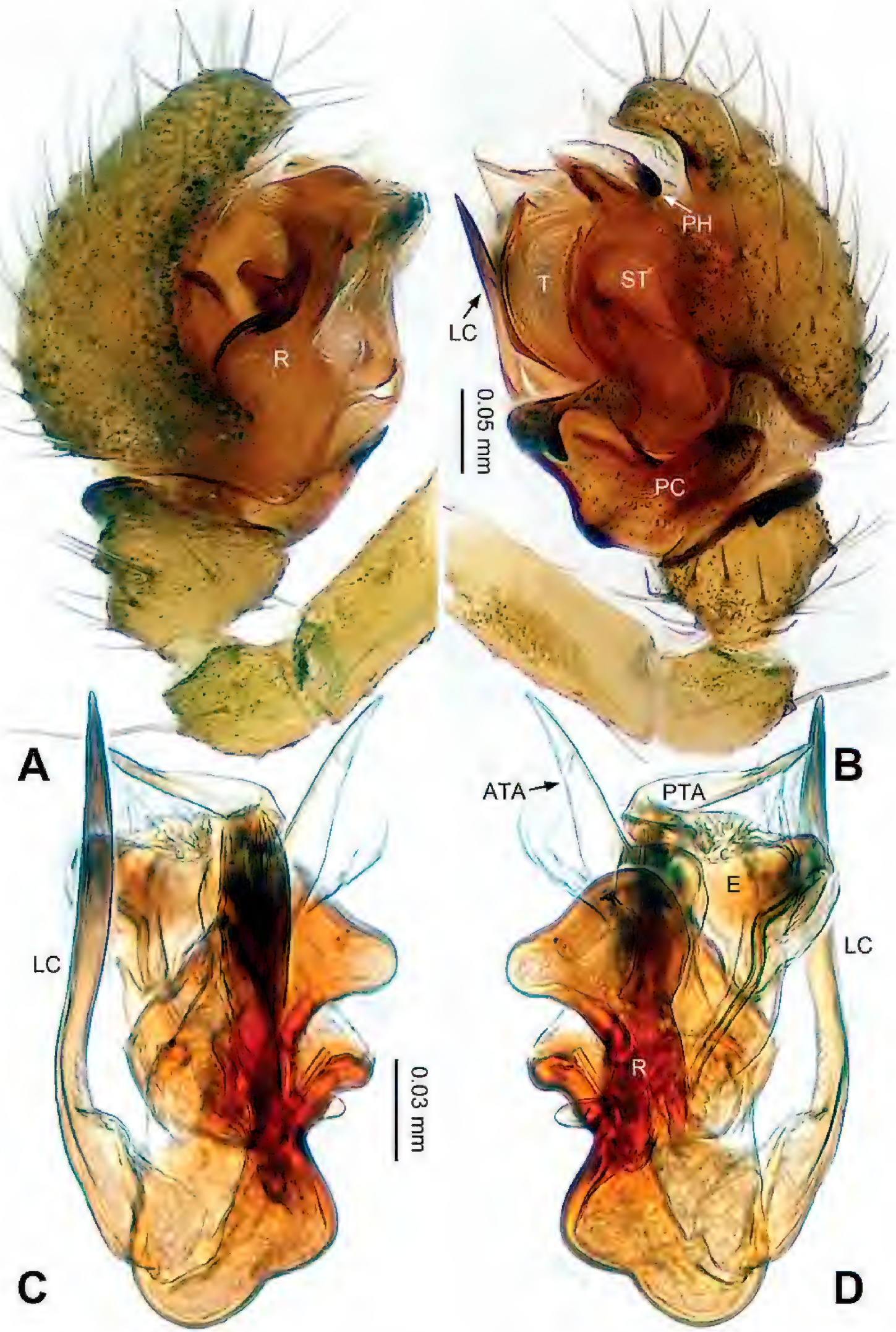


Figure 85. *Parameioneta tricolorata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, prolateral view. Scale bars: **A** as **B**, **D** as **C**.

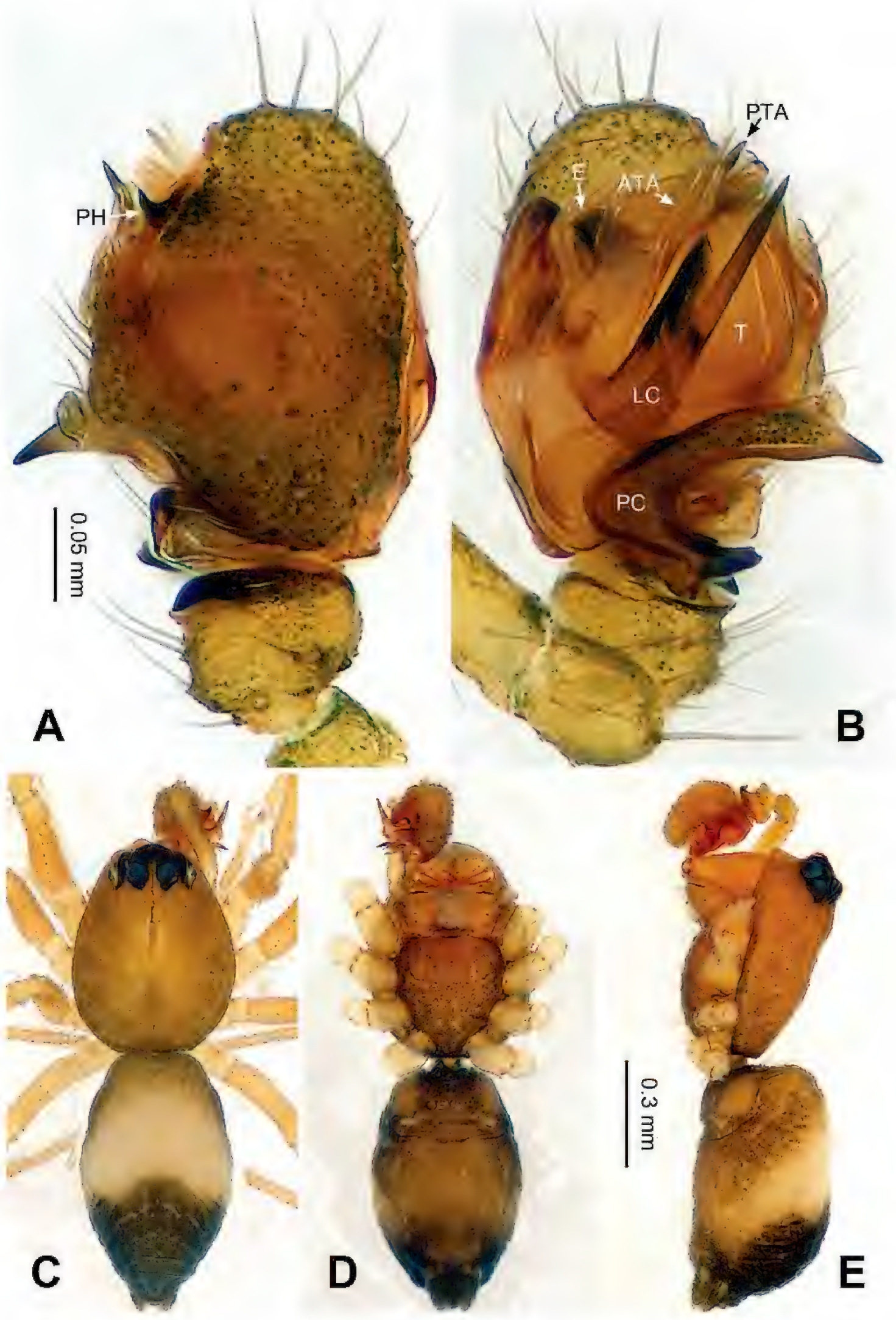
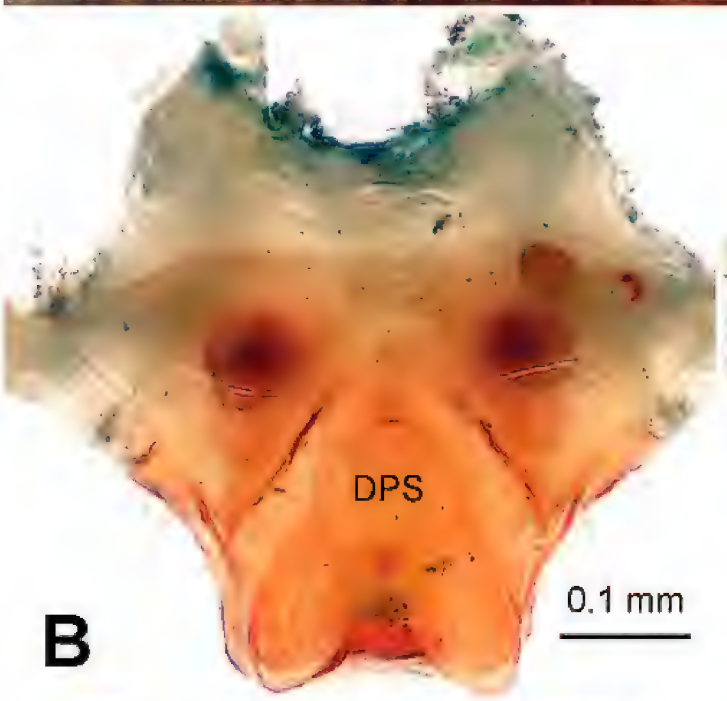
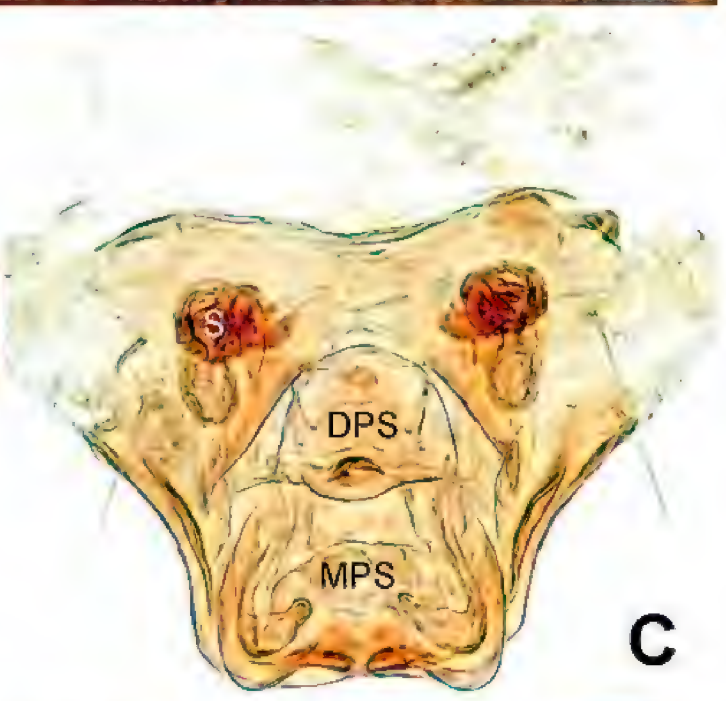


Figure 86. *Parameioneta tricolorata* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **D** as **E**.





0.1 mm

0.5 mm

Figure 87. *Parameioneta tricolorata* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **F** as **E**.

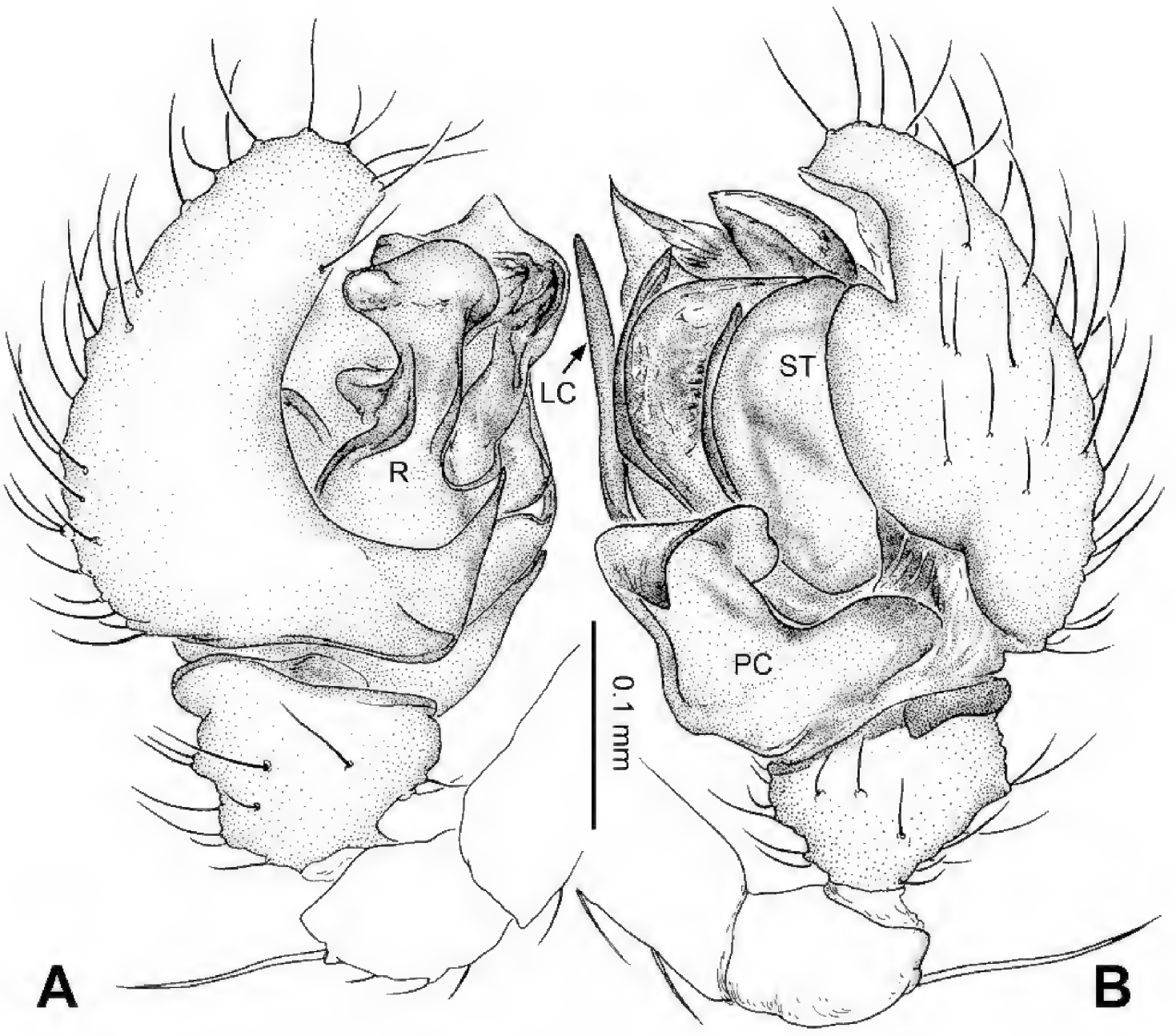


Figure 88. *Parameioneta tricolorata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **A** as **B**.

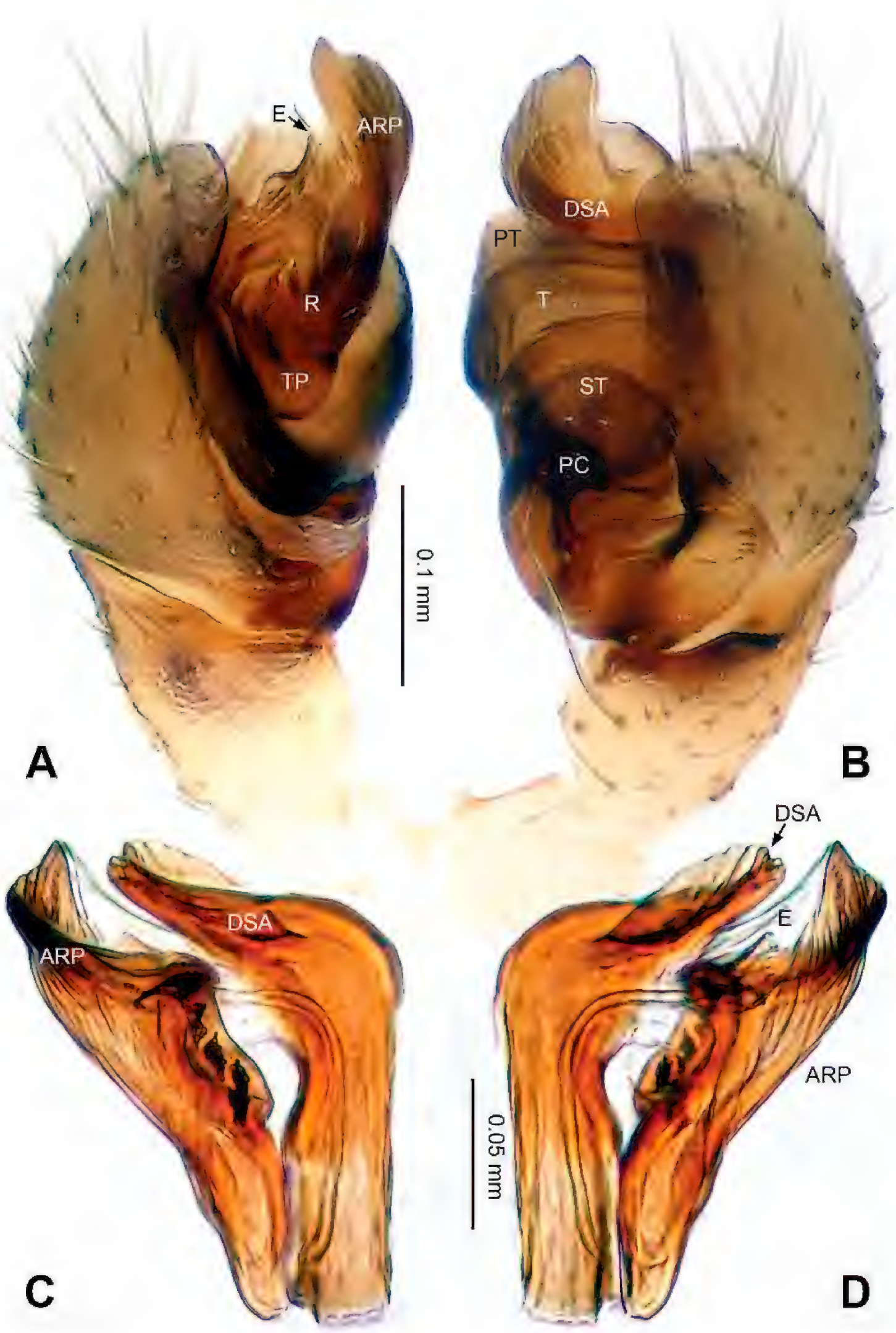


Figure 89. *Smerasia obscurus* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, prolateral view. Scale bars: **B** as **A**, **C** as **D**.

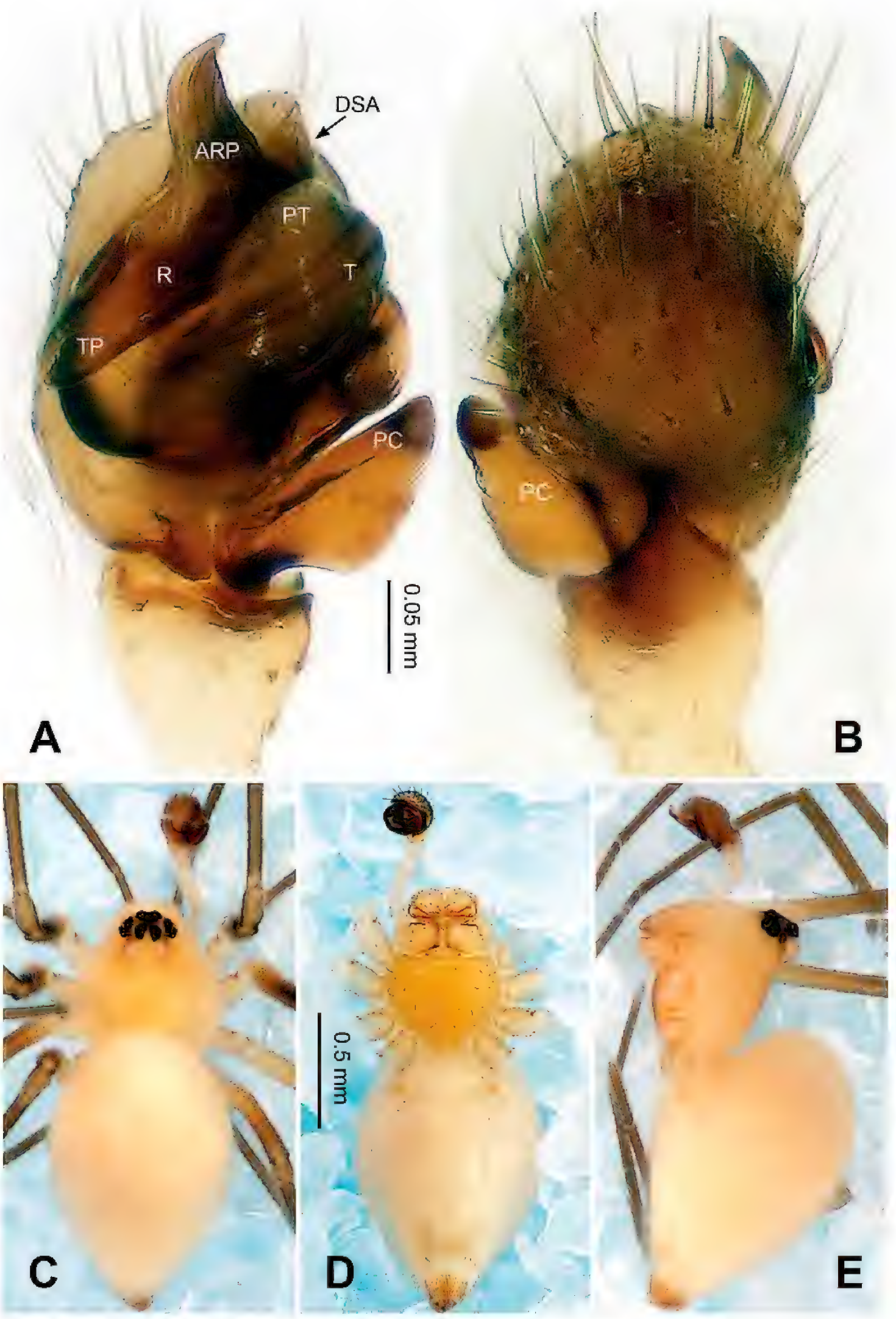


Figure 90. *Smerasia obscurus* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **E** as **D**.

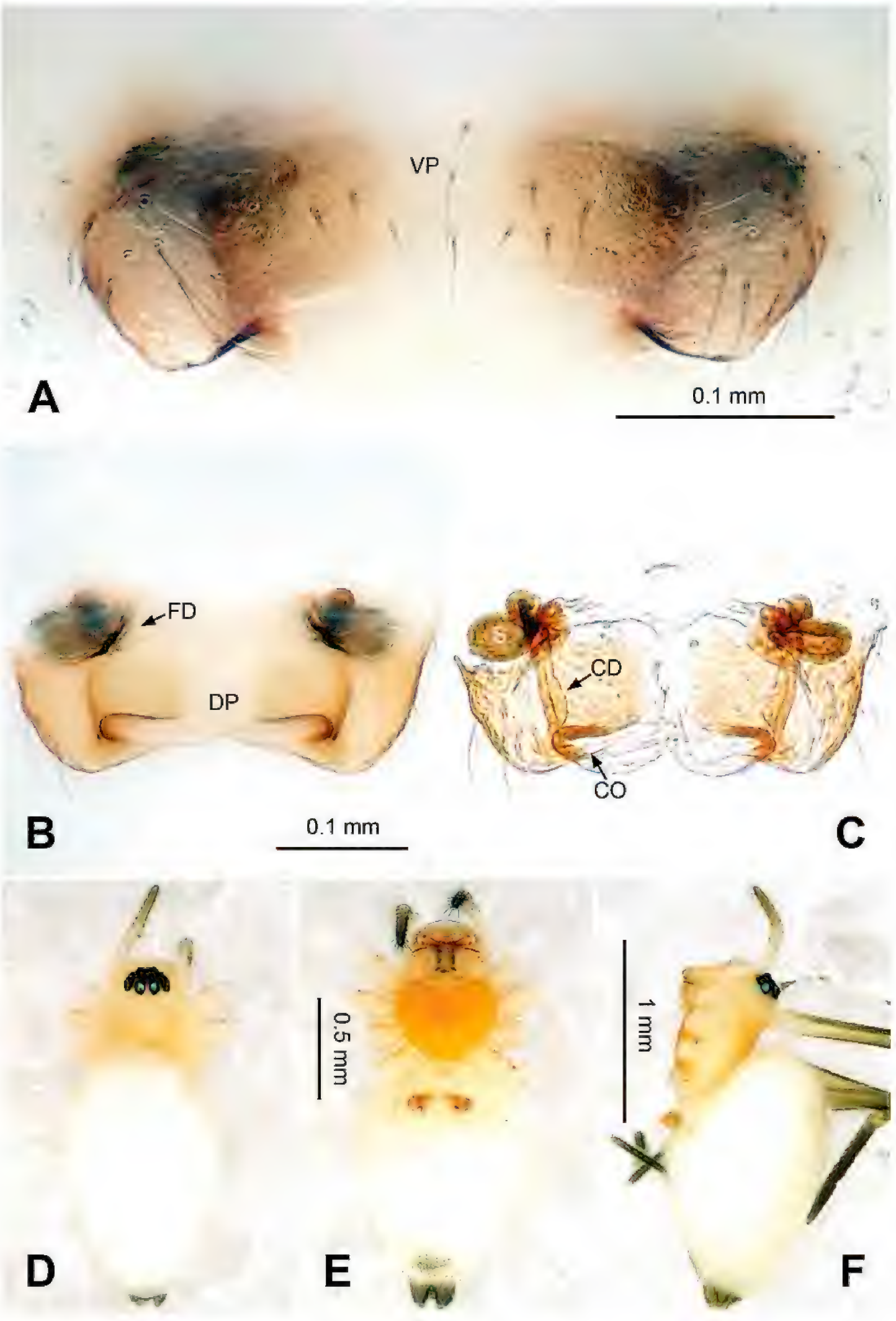


Figure 91. *Smerasia obscurus* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** as **F**.

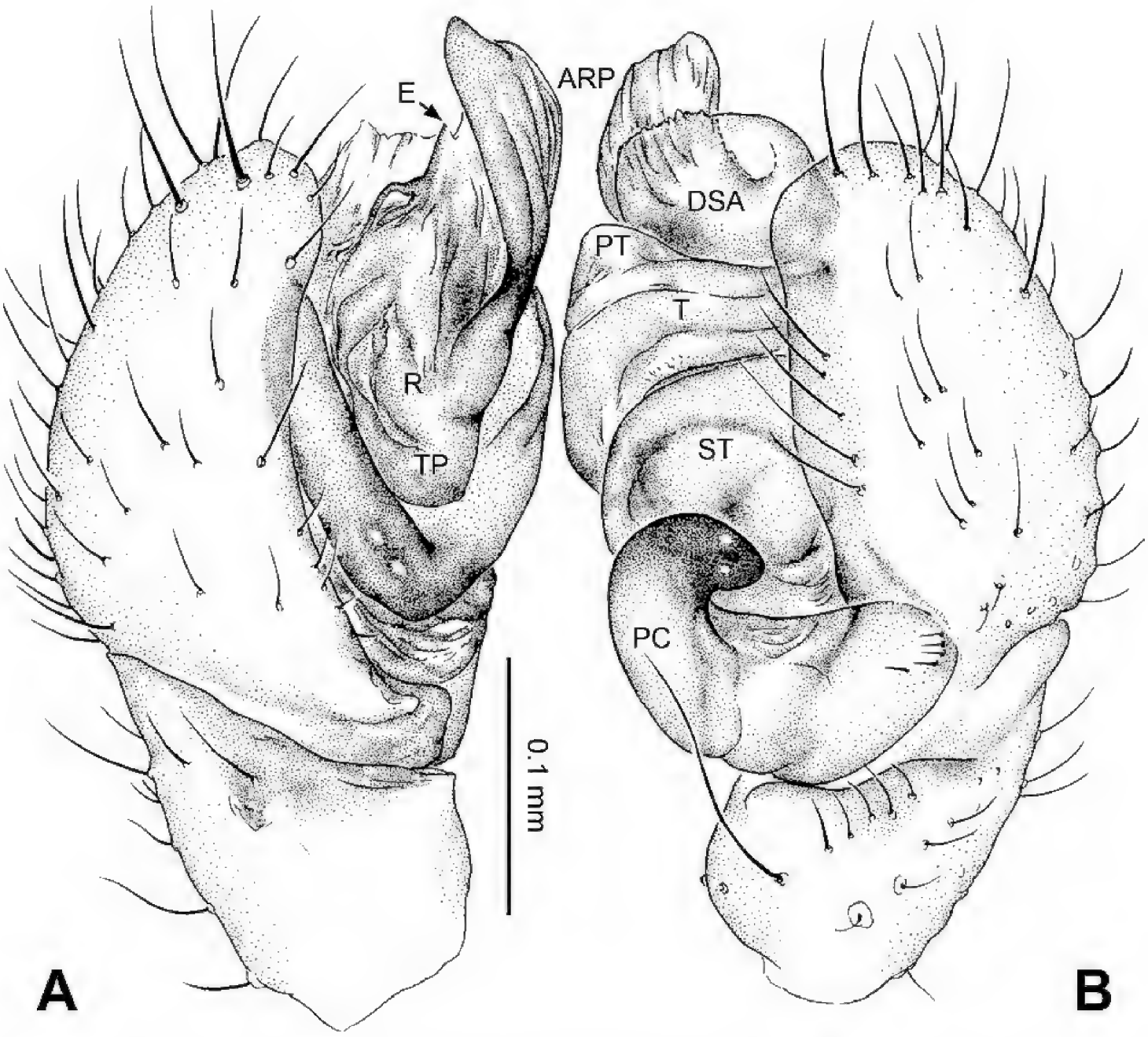


Figure 92. *Smerasia obscurus* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **B** as **A**.

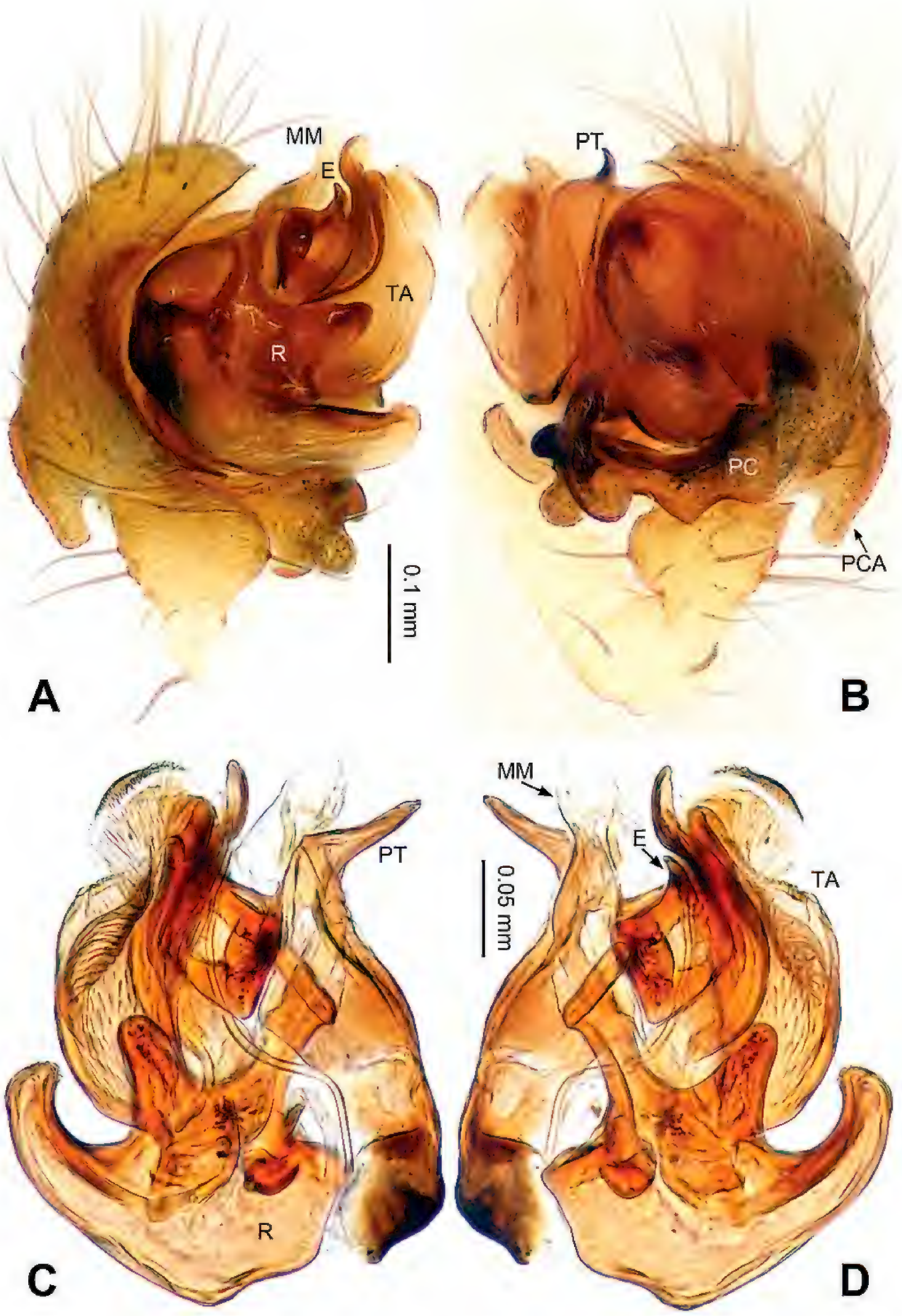


Figure 93. *Tapinopa undata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, prolateral view. Scale bars: **B** as **A**, **C** as **D**.

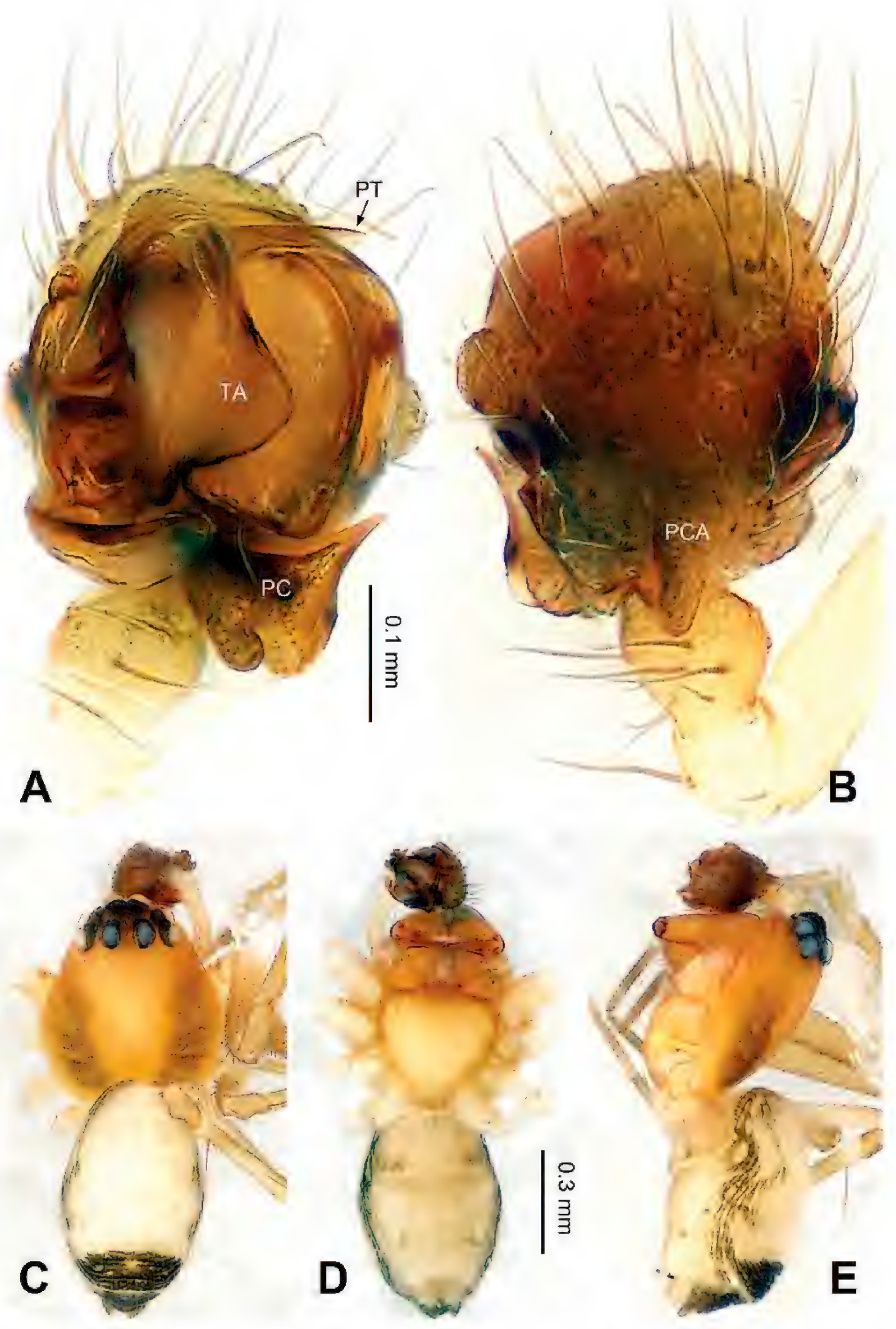


Figure 94. *Tapinopa undata* sp. n., male holotype. **A** Palp, ventral view **B** Palp, dorsal view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **E** as **D**.

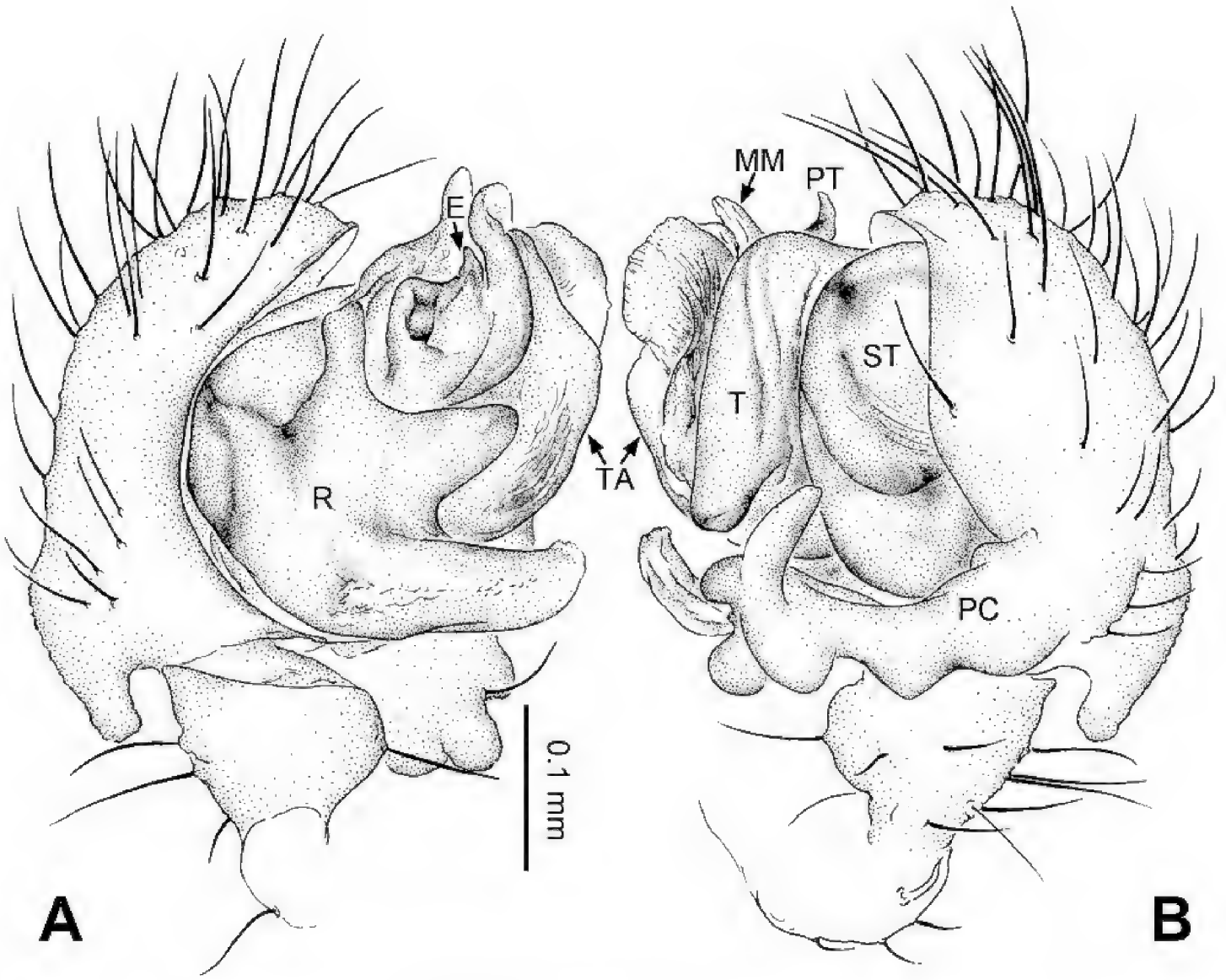


Figure 95. *Tapinopa undata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view. Scale bar: **B** as **A**.

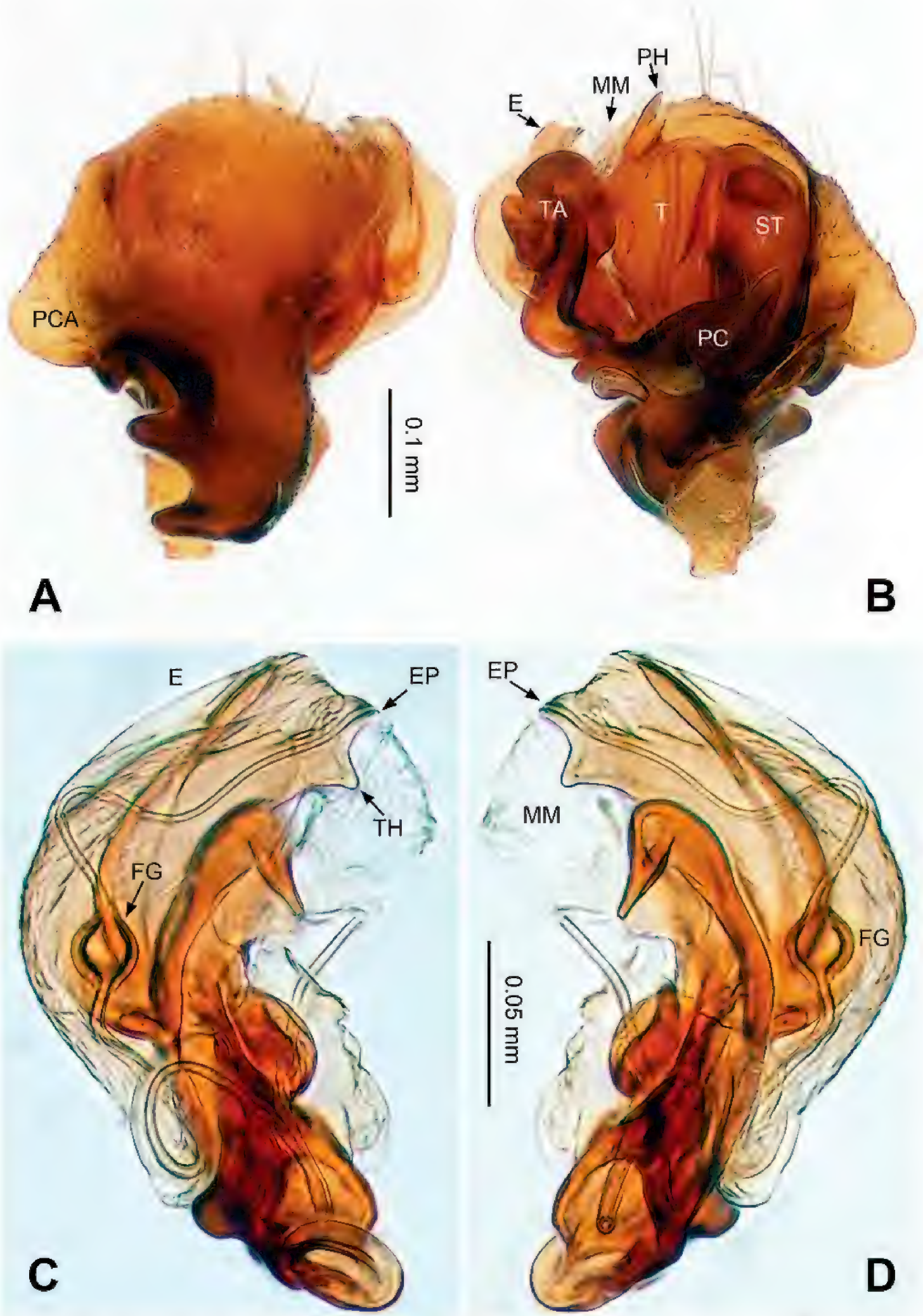


Figure 96. *Theoa bidentata* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolus, retrolateral view **D** Embolus, prolateral view. Scale bars: **B** as **A**, **C** as **D**.

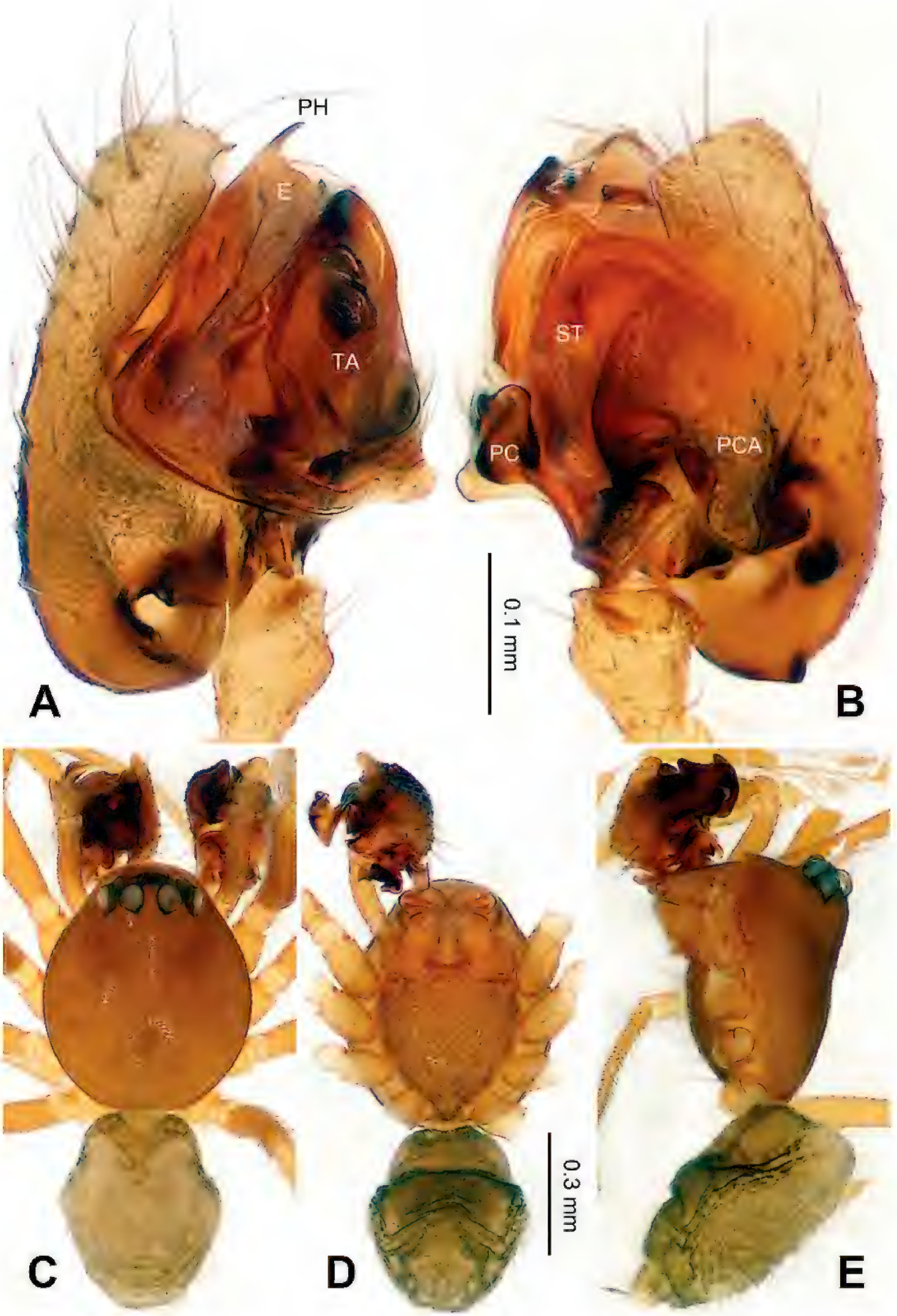


Figure 97. *Theoa bidentata* sp. n., male holotype. **A** Palp, ventral view **B** Palp, dorsal view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **E** as **D**.

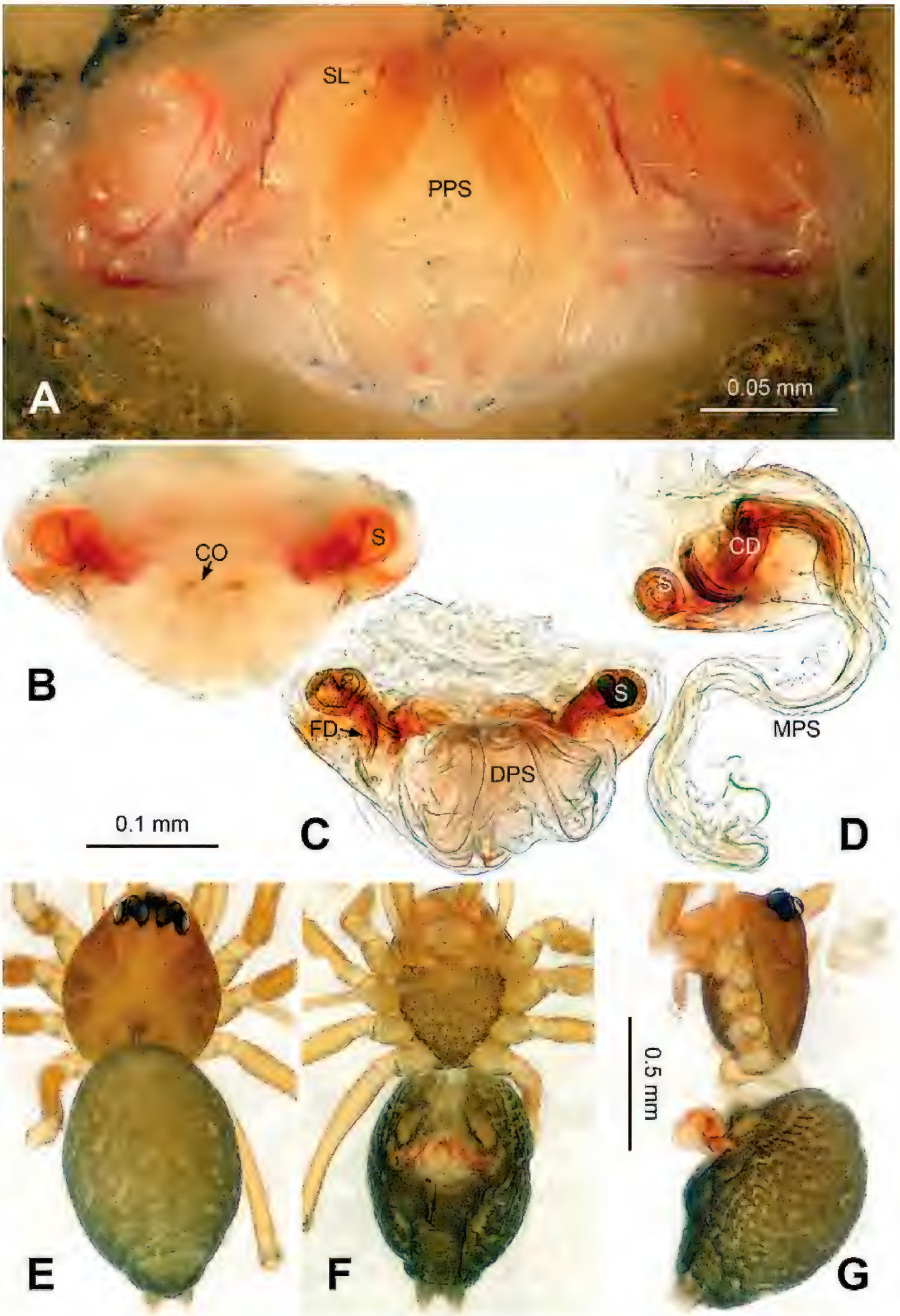


Figure 98. *Theoa bidentata* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Epigyne, lateral view **E** Habitus, dorsal view **F** Habitus ventral view **G** Habitus lateral view. Scale bars: **C** and **D** as **B**, **E** and **F** as **G**.

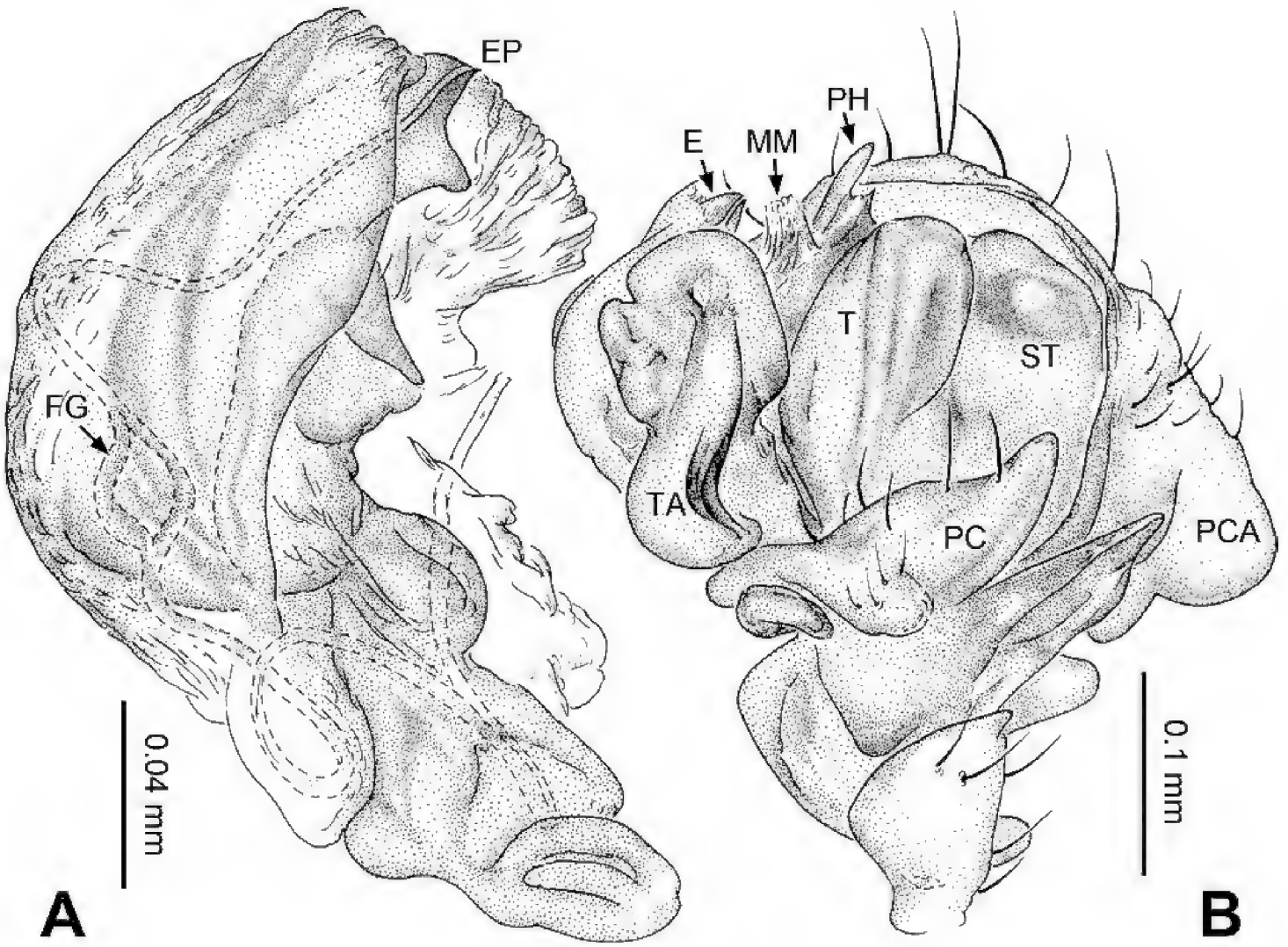


Figure 99. *Theoa bidentata* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Embolus, retrolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **C** as **D**.

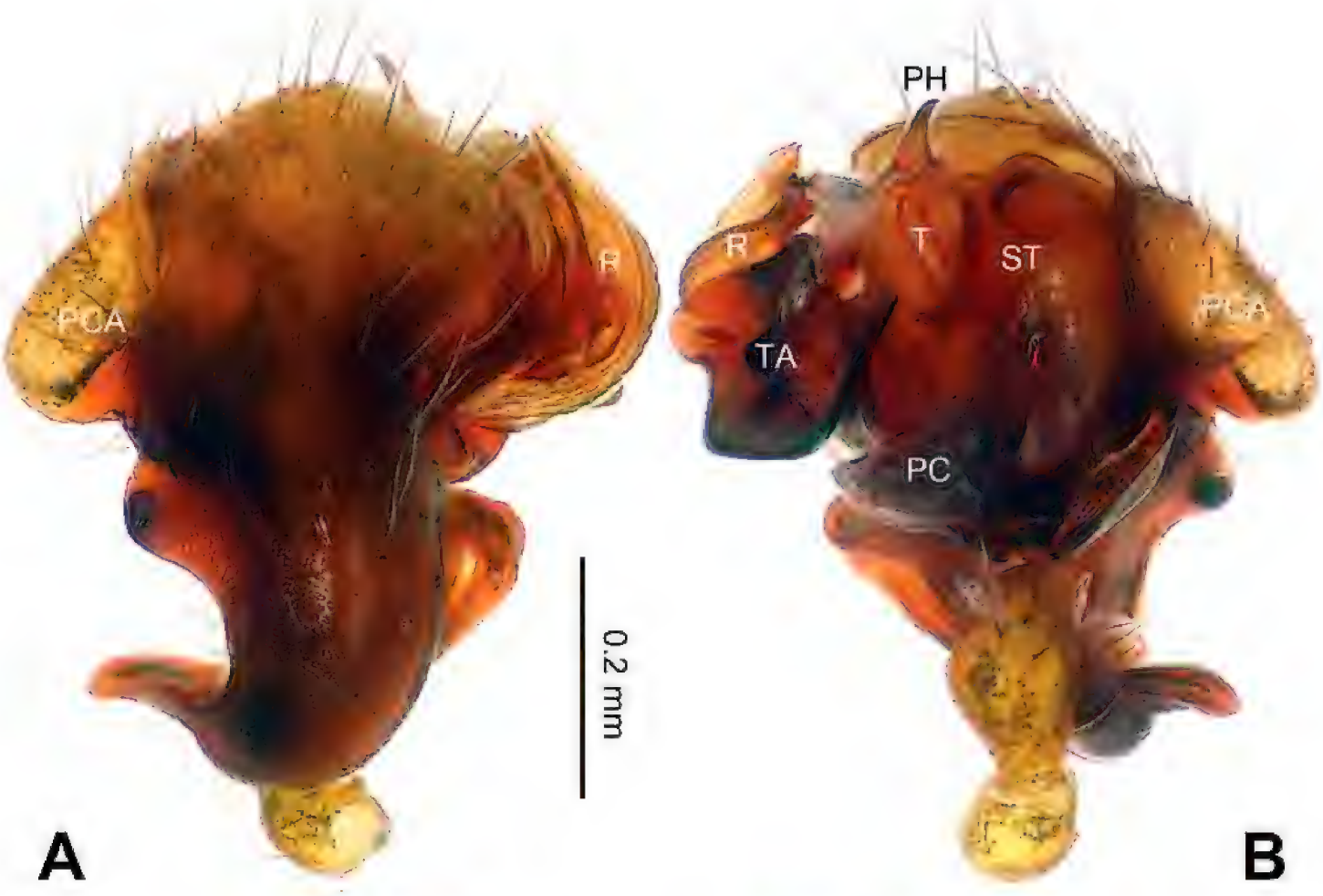


Figure 100. *Theoa vesica* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolus, retrolateral view **D** Embolus, prolateral view. Scale bars: **B** as **A**, **D** as **C**.

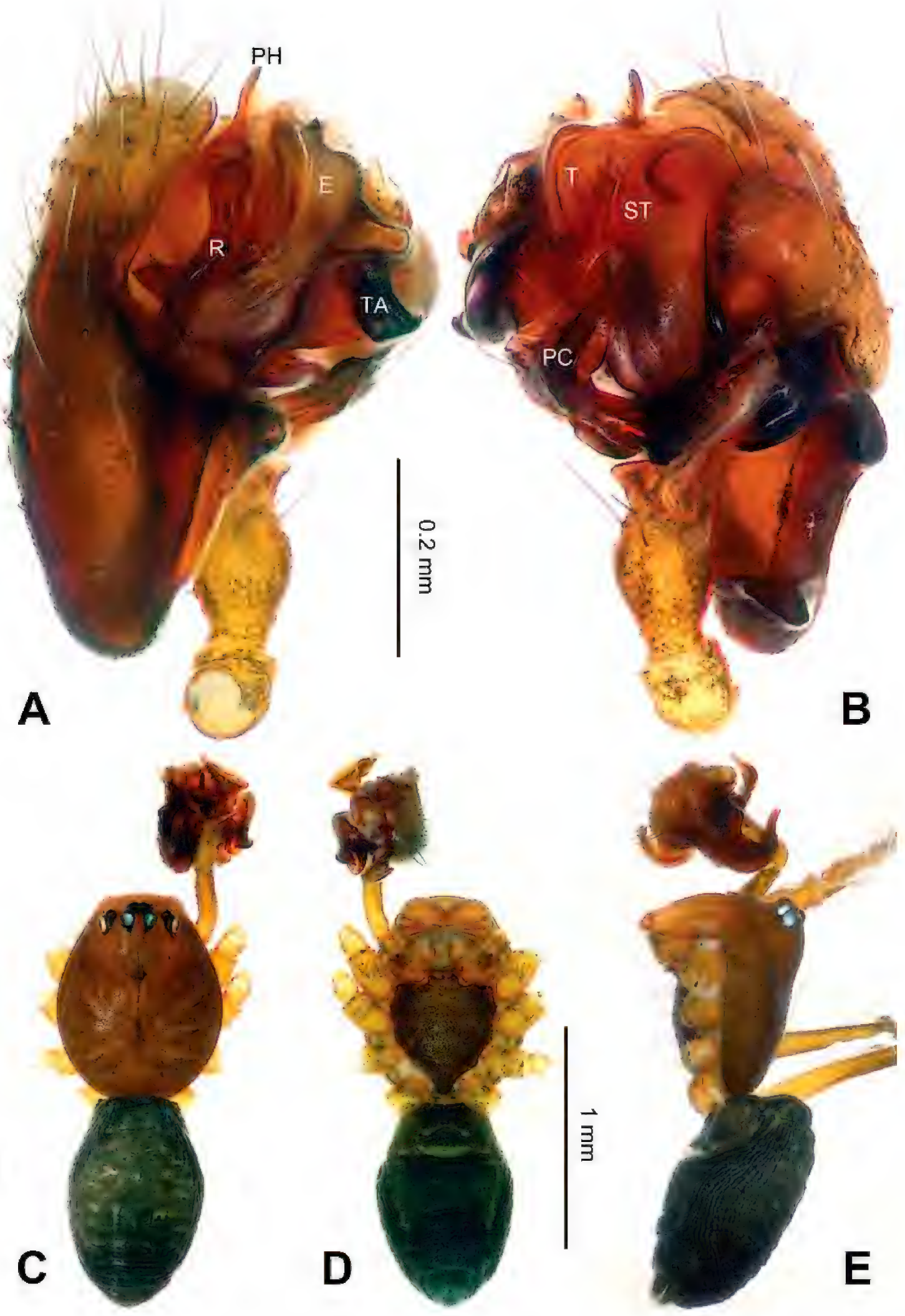


Figure 101. *Theoa vesica* sp. n., male holotype. **A** Palp, ventral view **B** Palp, dorsal view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **D** as **E**.

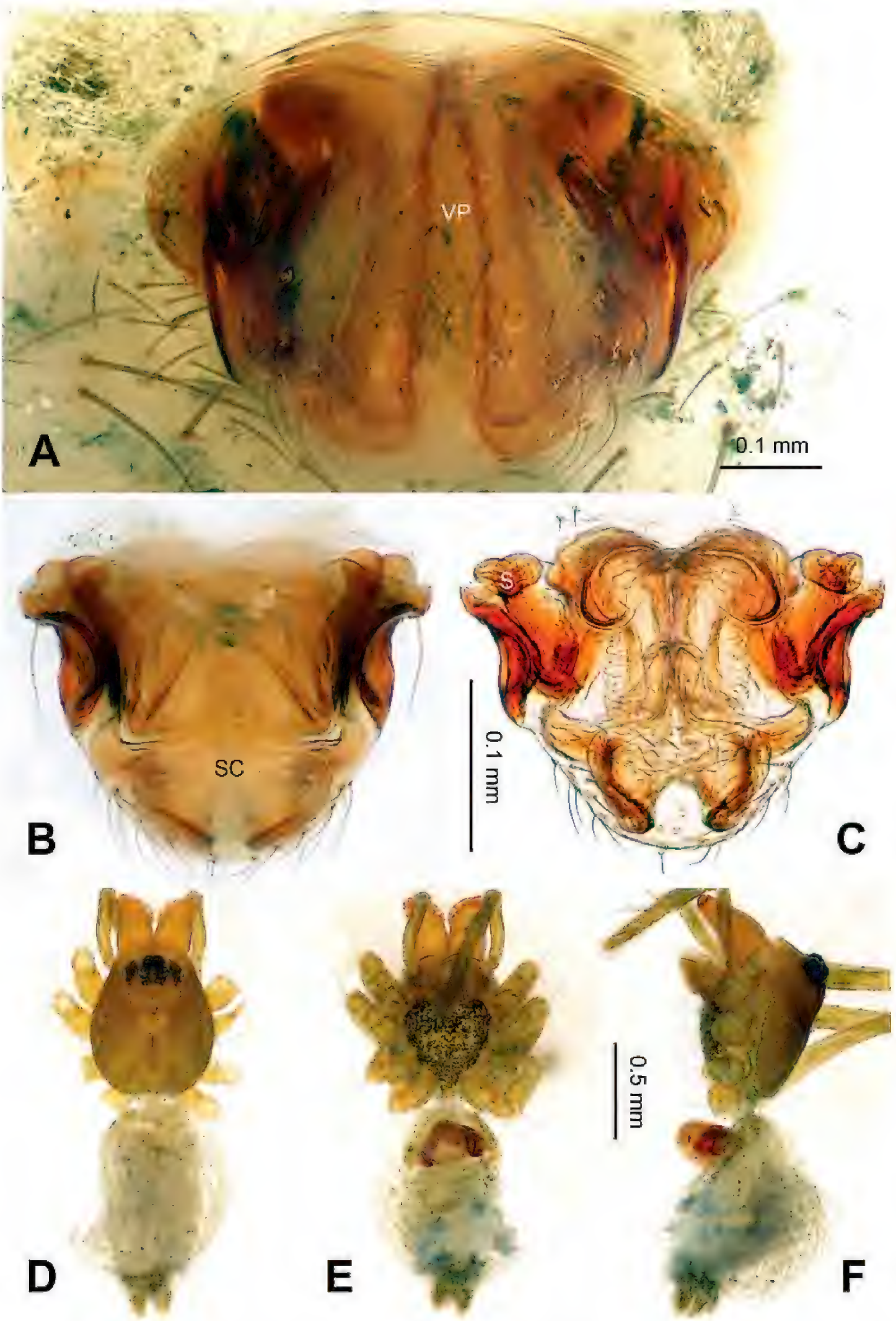


Figure 102. *Theoa vesica* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **B** as **C**, **D** and **E** as **F**.

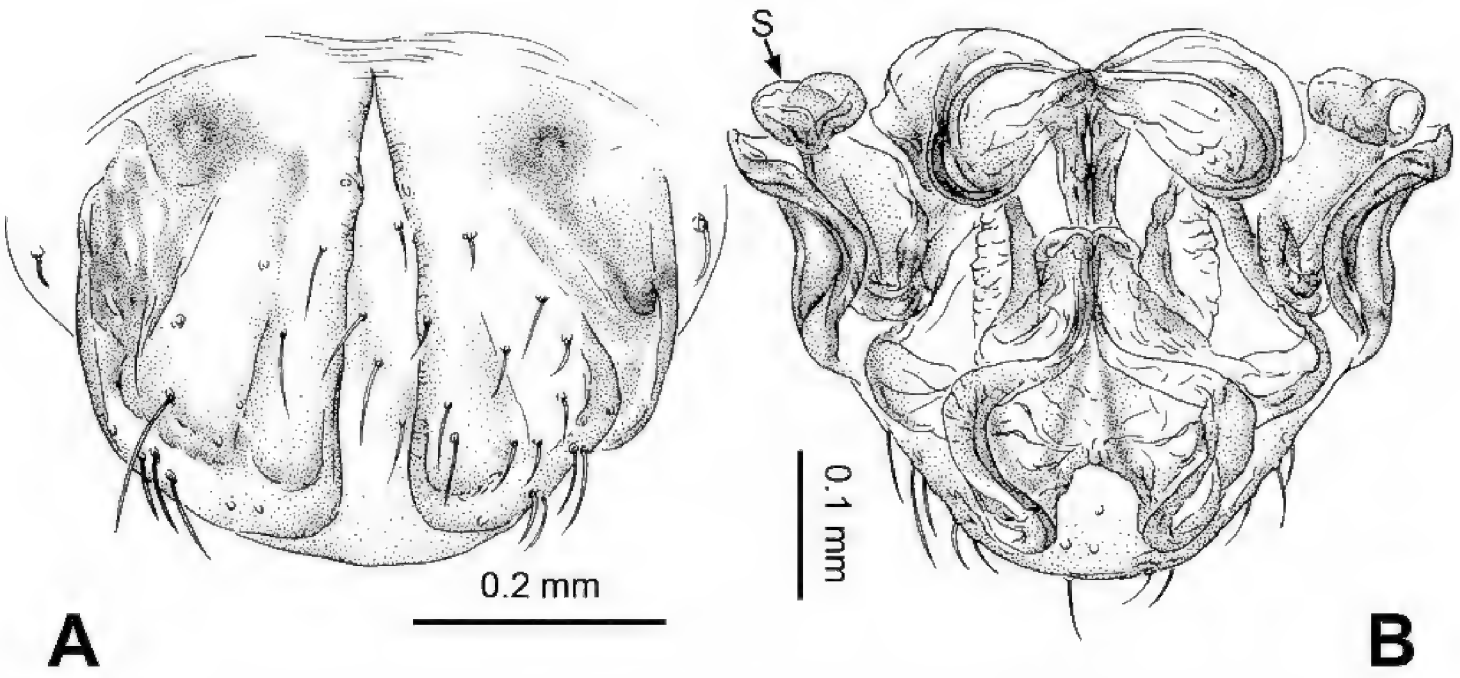


Figure 103. *Theoa vesica* sp. n., female paratype. **A** Epigyne, ventral view **B** Vulva, dorsal view.

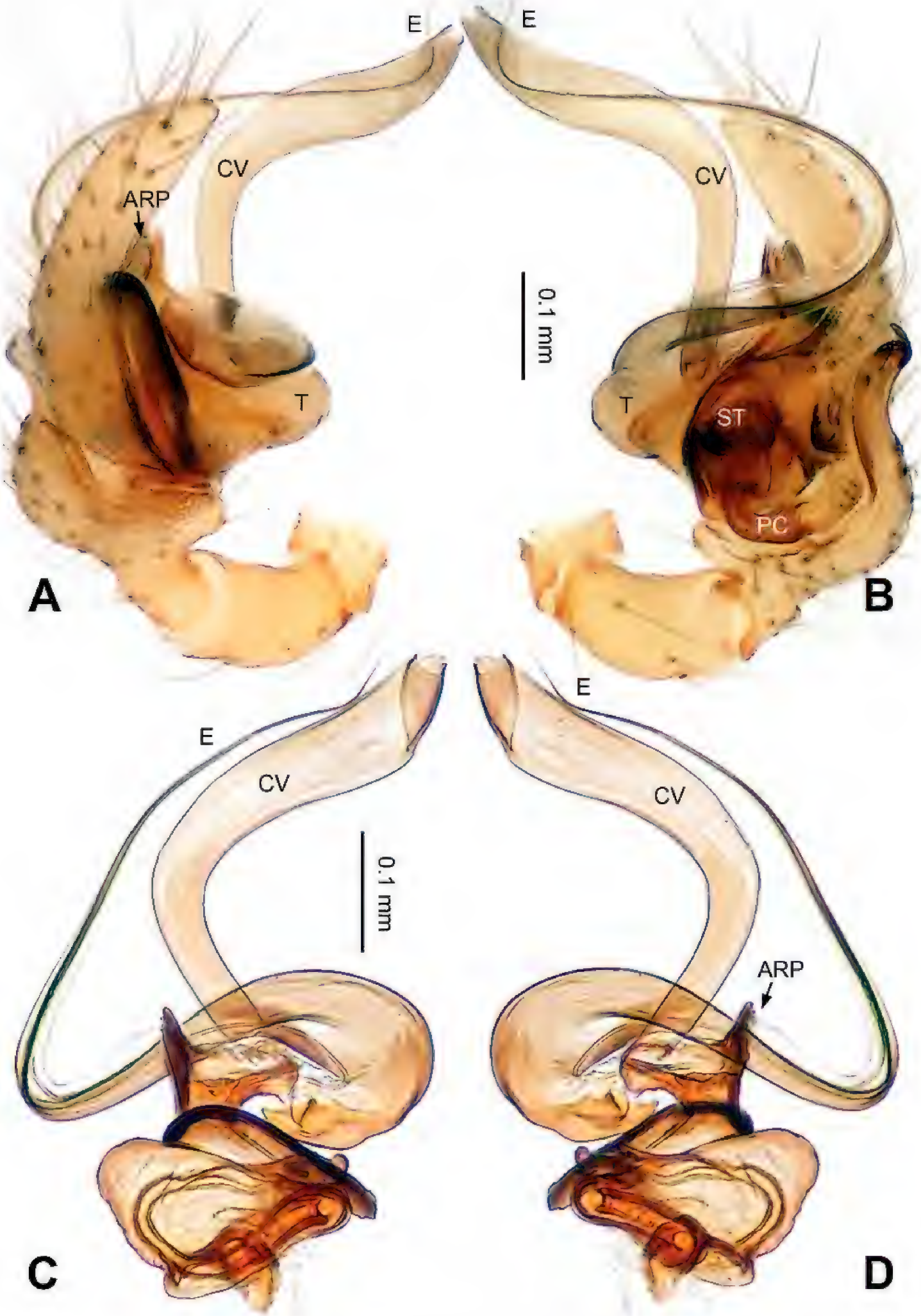


Figure 104. *Vittatus bian* sp. n., male holotype. **A** Right palp, prolateral view **B** Right palp, retrolateral view **C** Embolic division of the right palp, prolateral view **D** Embolic division of the right Palp, retrolateral view. Scale bars: **A** as **B**, **D** as **C**.

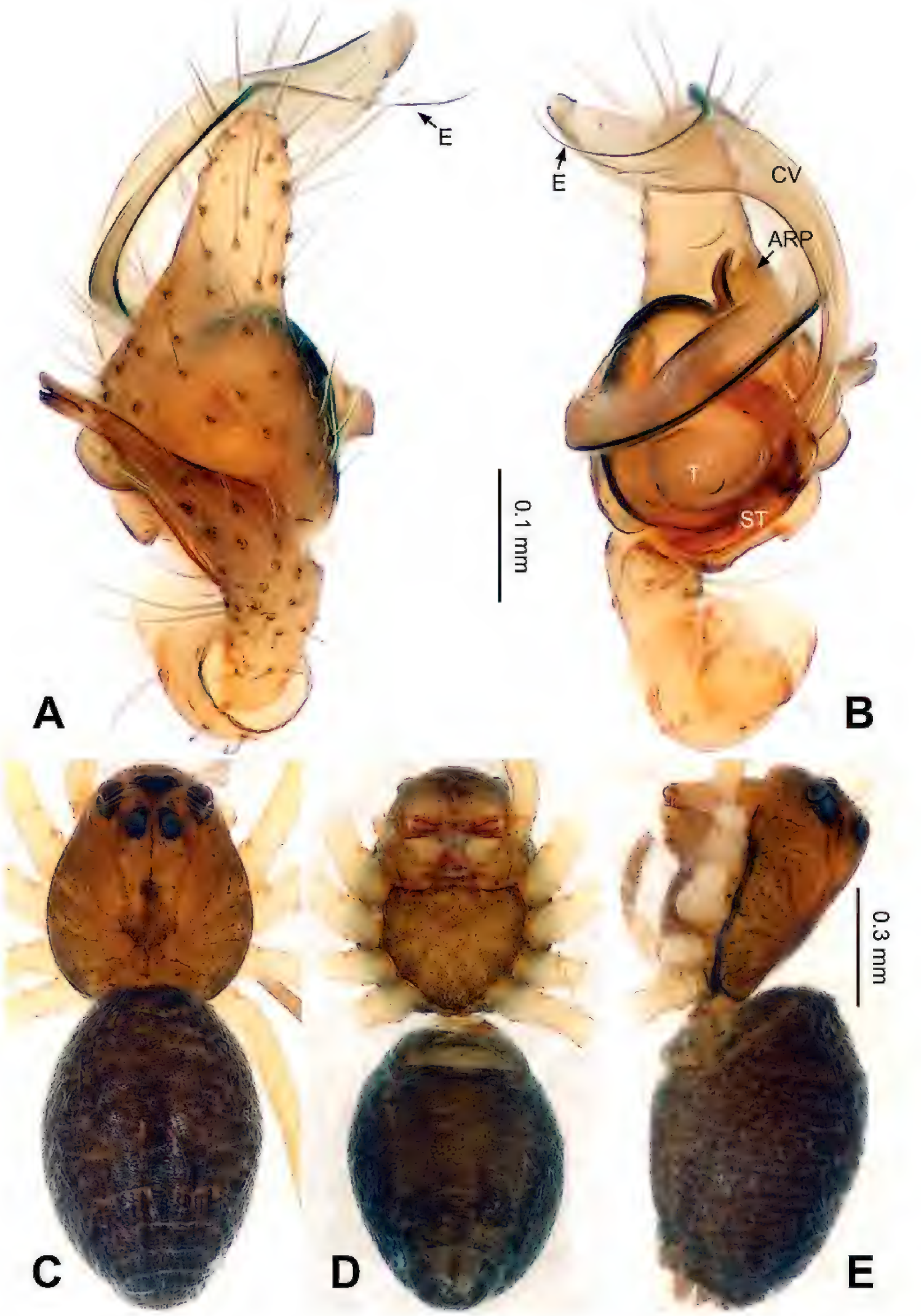
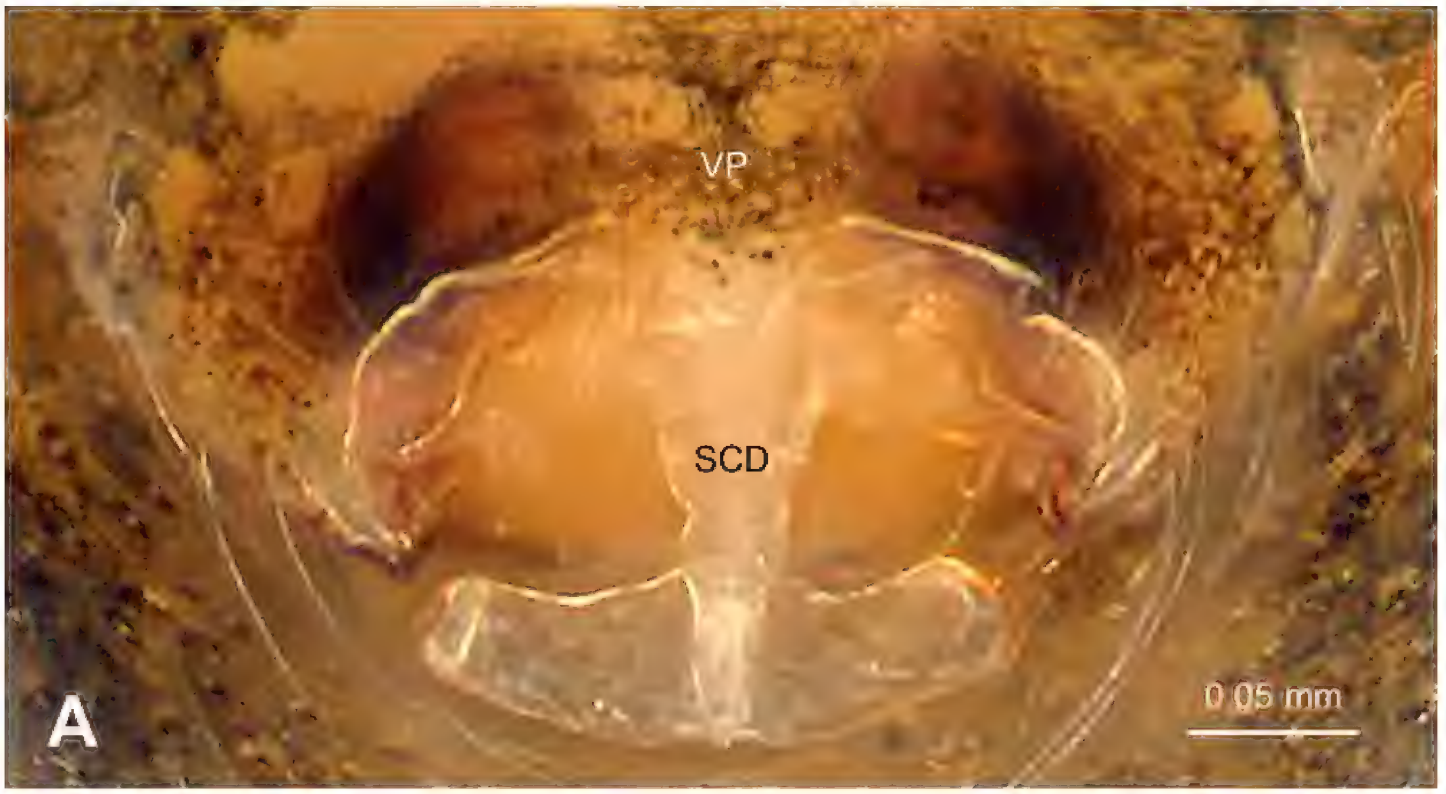
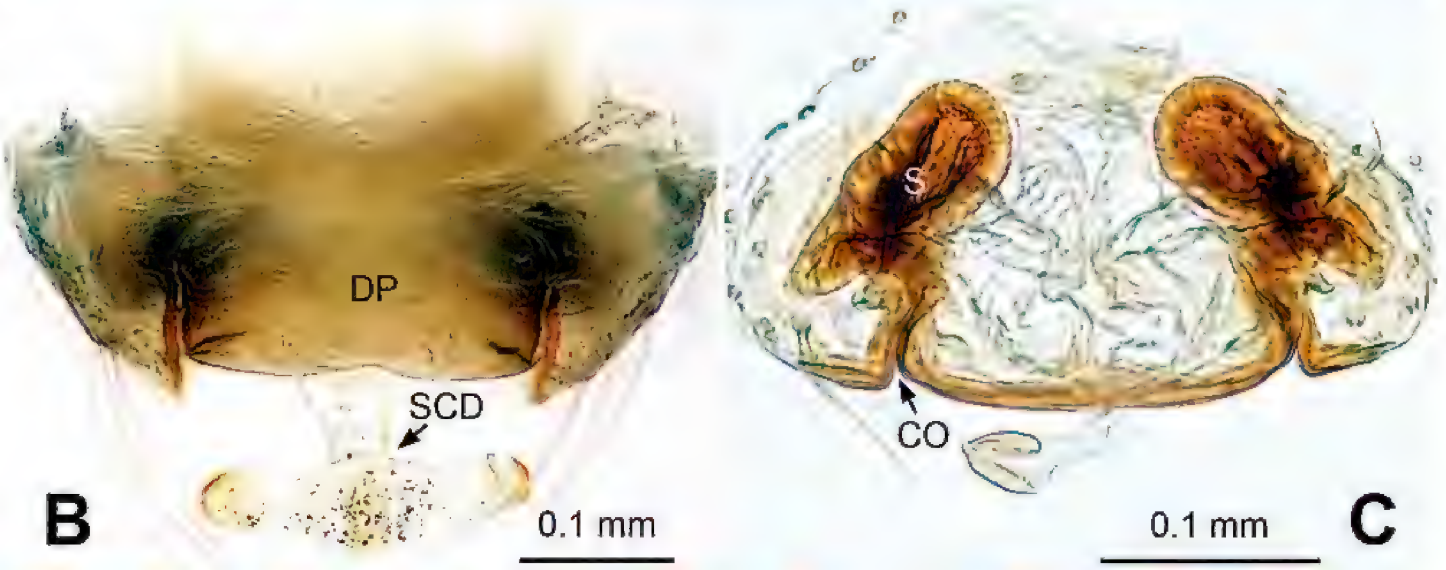


Figure 105. *Vittatus bian* sp. n., male holotype. **A** Right palp, dorsal view **B** Right palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **D** as **E**.





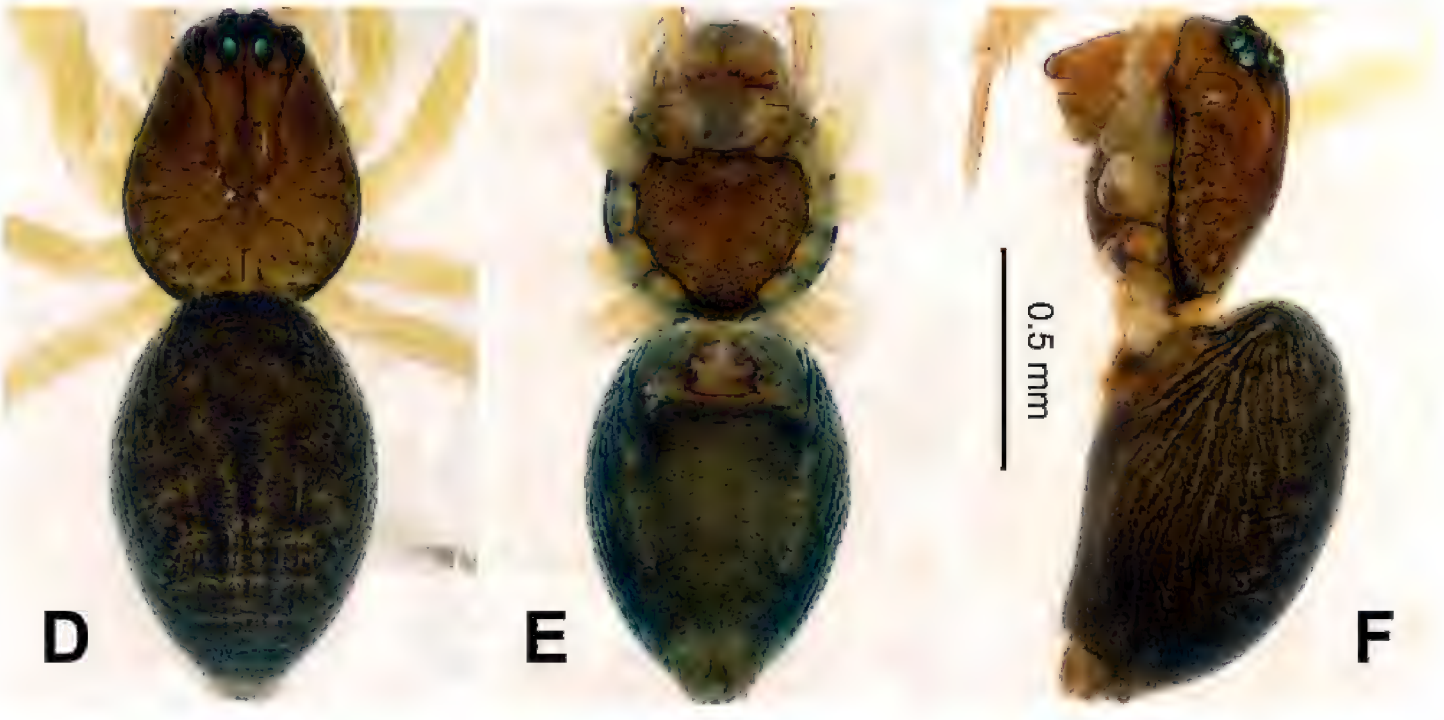


Figure 106. *Vittatus bian* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bar: **D** and **E** as **F**.

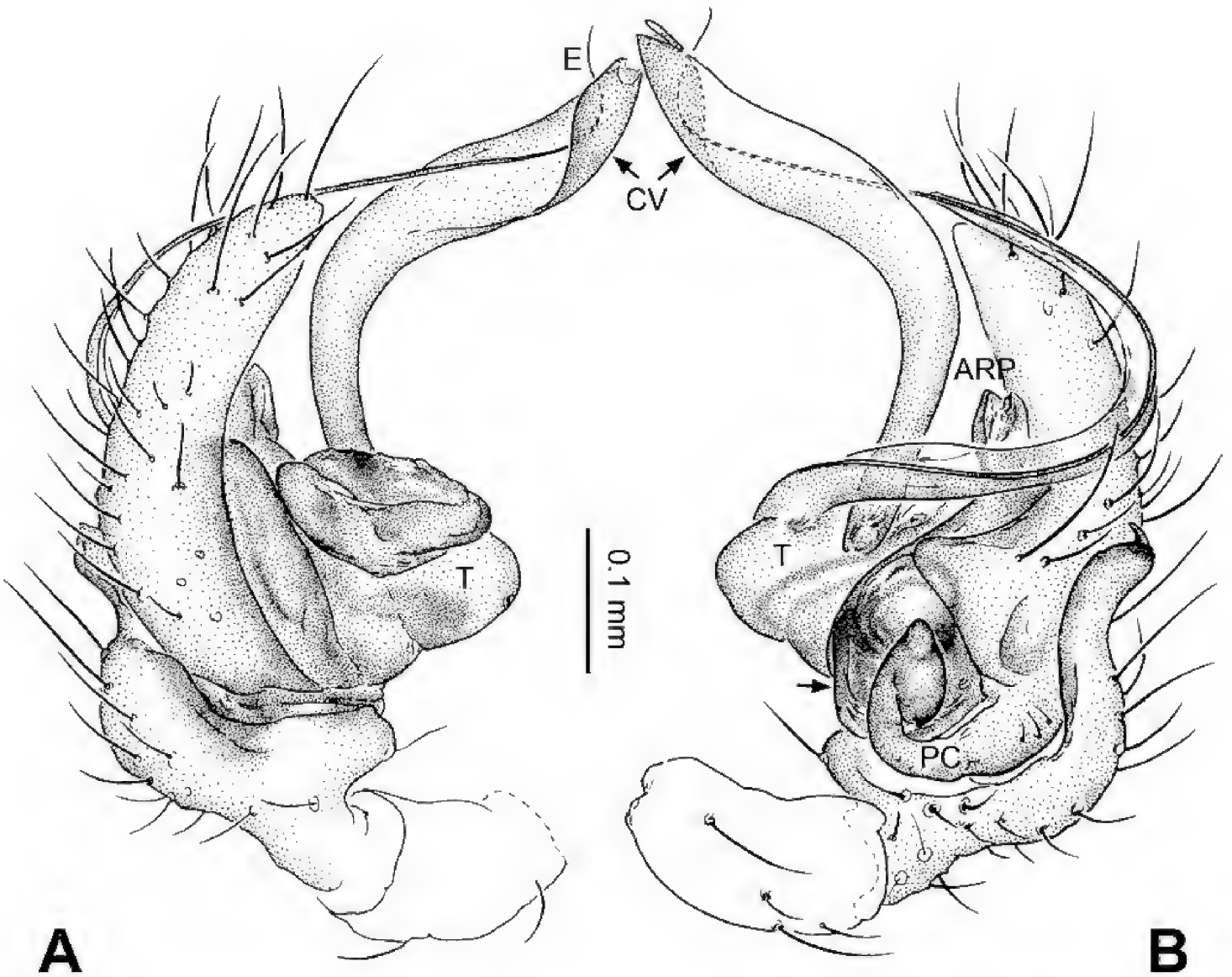


Figure 107. *Vittatus bian* sp. n., male holotype (**A–B**) and female paratype (**C–D**). **A** Right palp, prolateral view **B** Right palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bars: **B** as **A**, **C** as **D**.

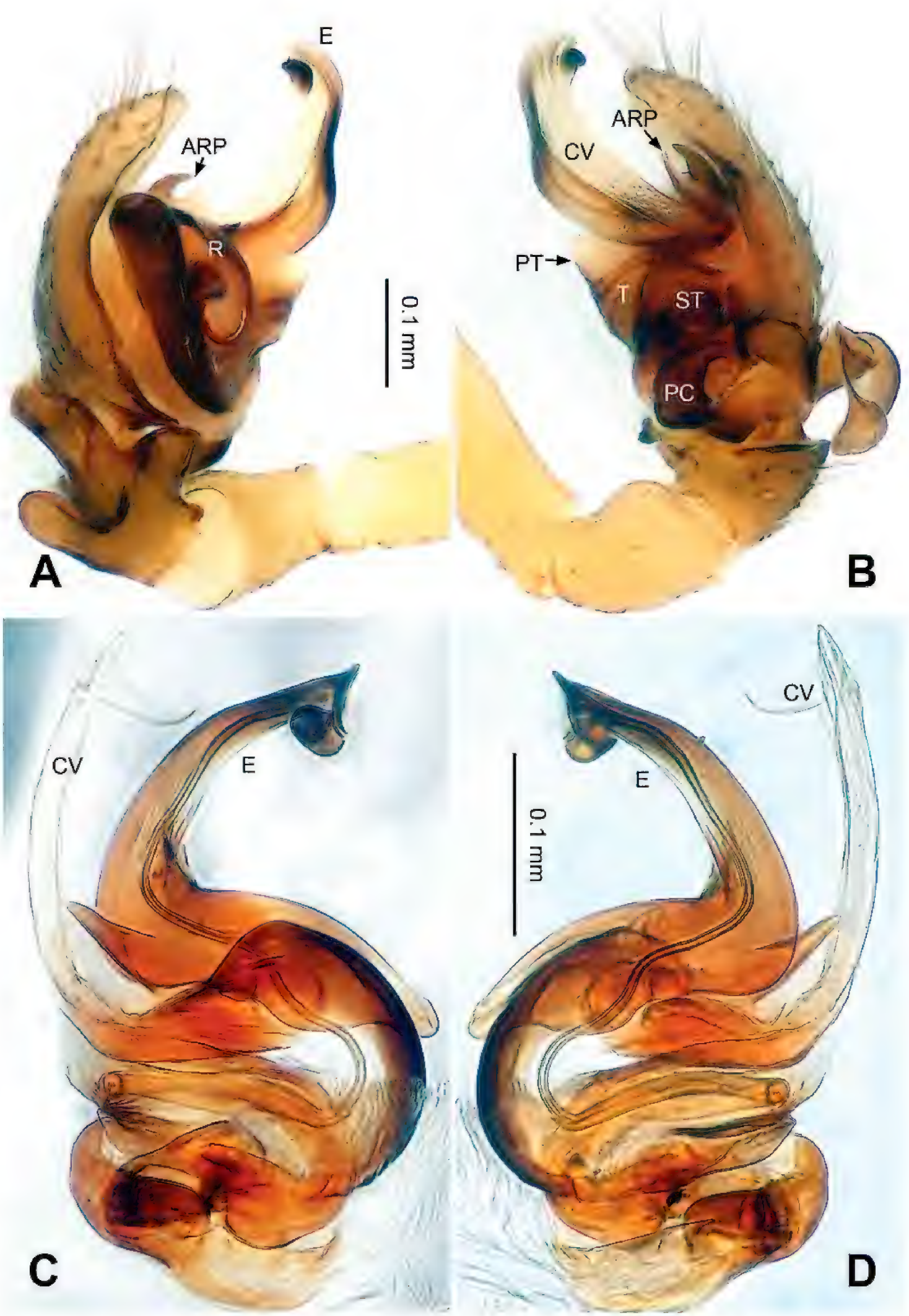


Figure 108. *Vittatus fencha* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, prolateral view. Scale bars: **B** as **A**, **C** as **D**.

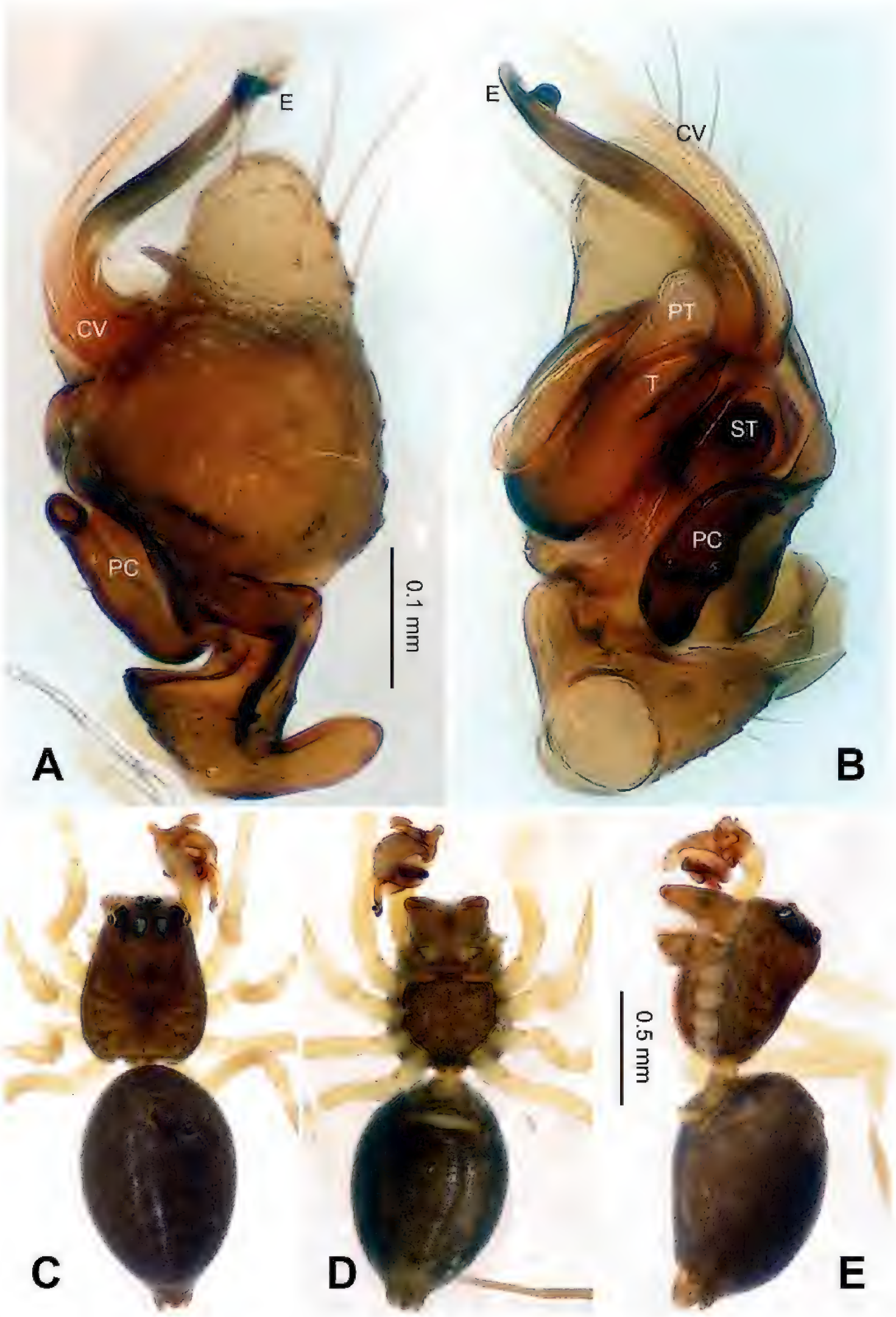


Figure 109. *Vittatus fencha* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **B** as **A**, **C** and **D** as **E**.

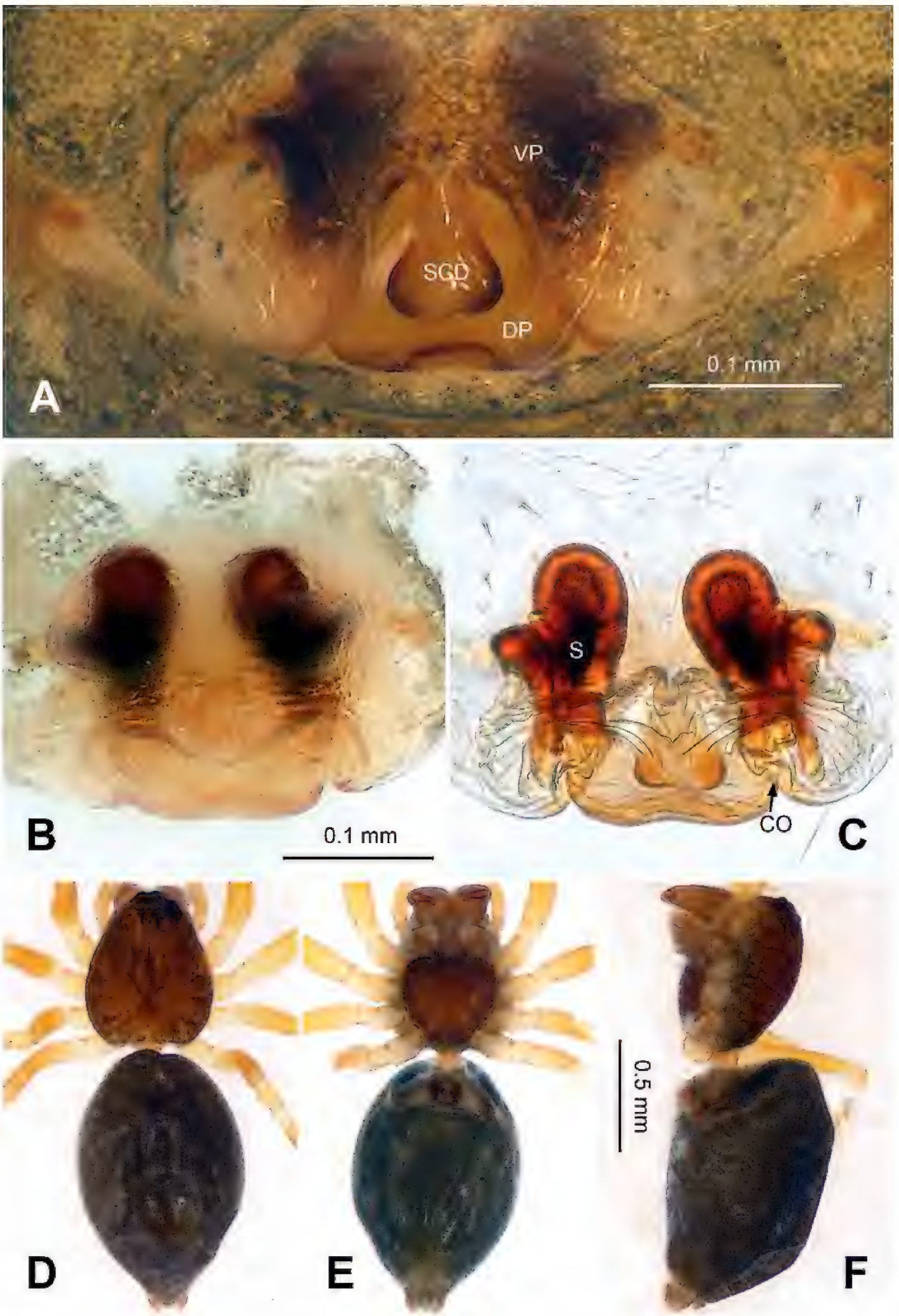


Figure 110. *Vittatus fencha* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

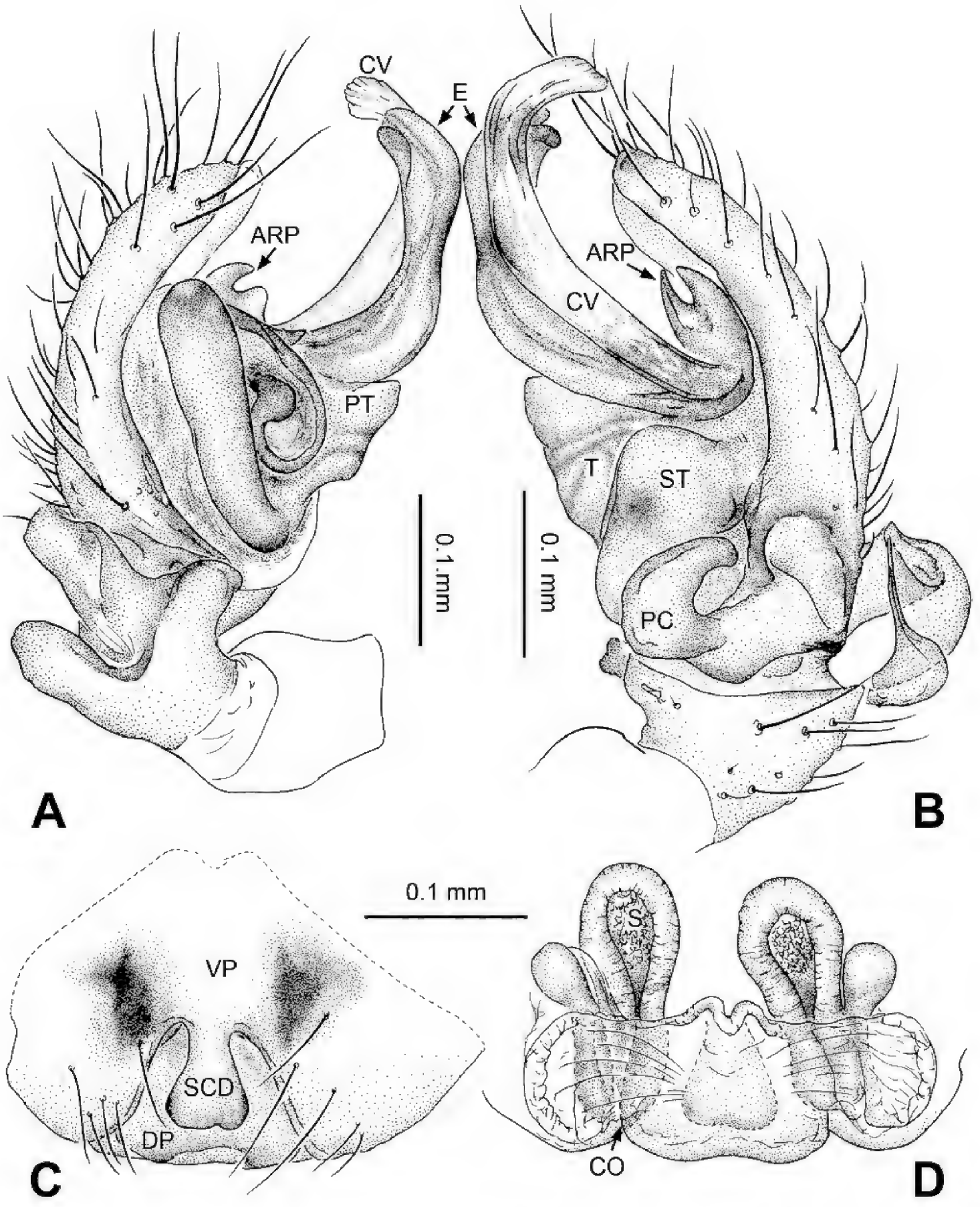


Figure 111. *Vittatus fencha* sp. n., male holotype (**A**–**B**) and female paratype (**C**–**D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bar: **D** as **C**.

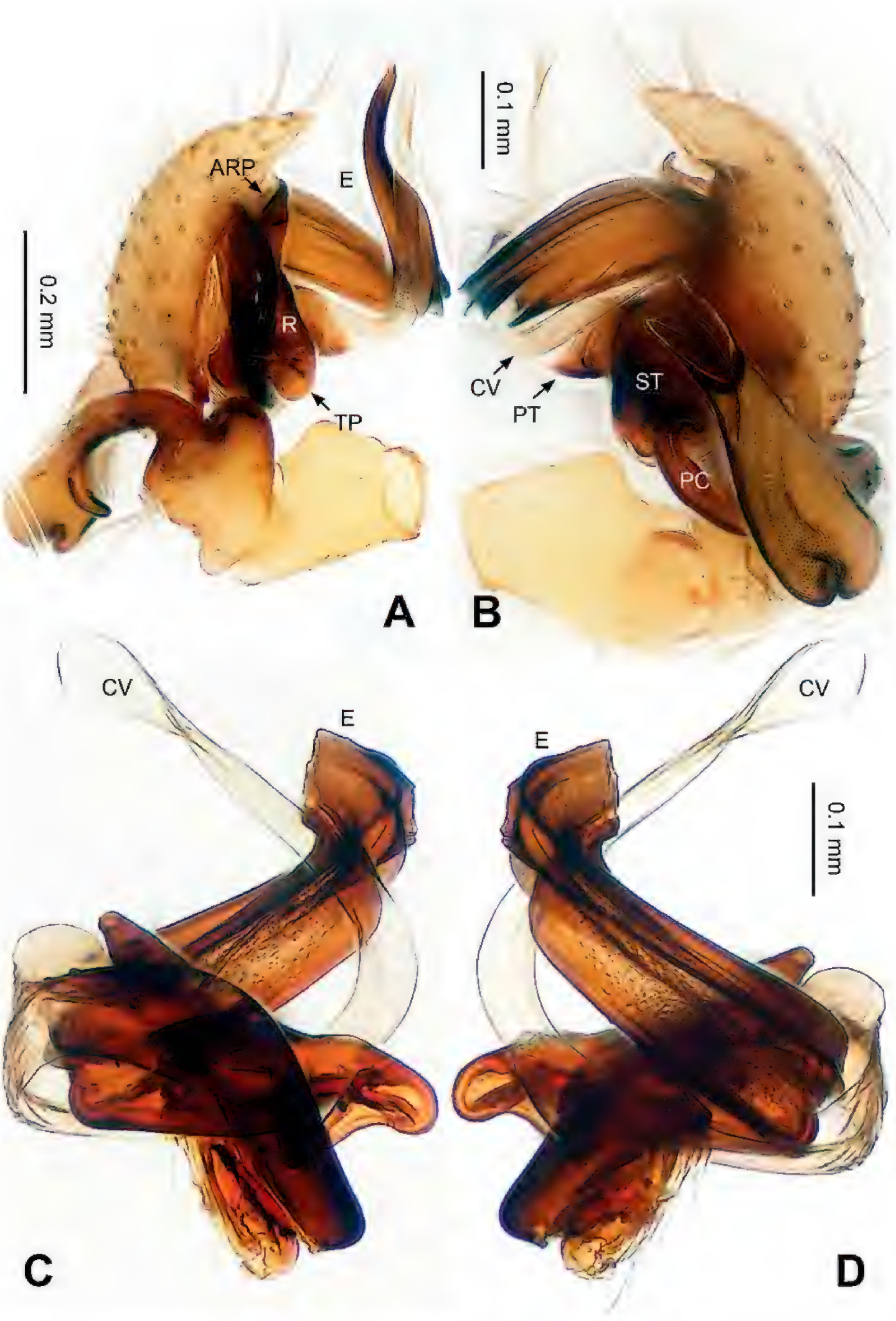


Figure 112. *Vittatus latus* sp. n., male holotype. **A** Right palp, prolateral view **B** Right palp, retrolateral view **C** Embolic division of the right palp, prolateral view **D** Embolic division of the right palp, retrolateral view. Scale bar: **D** as **C**.

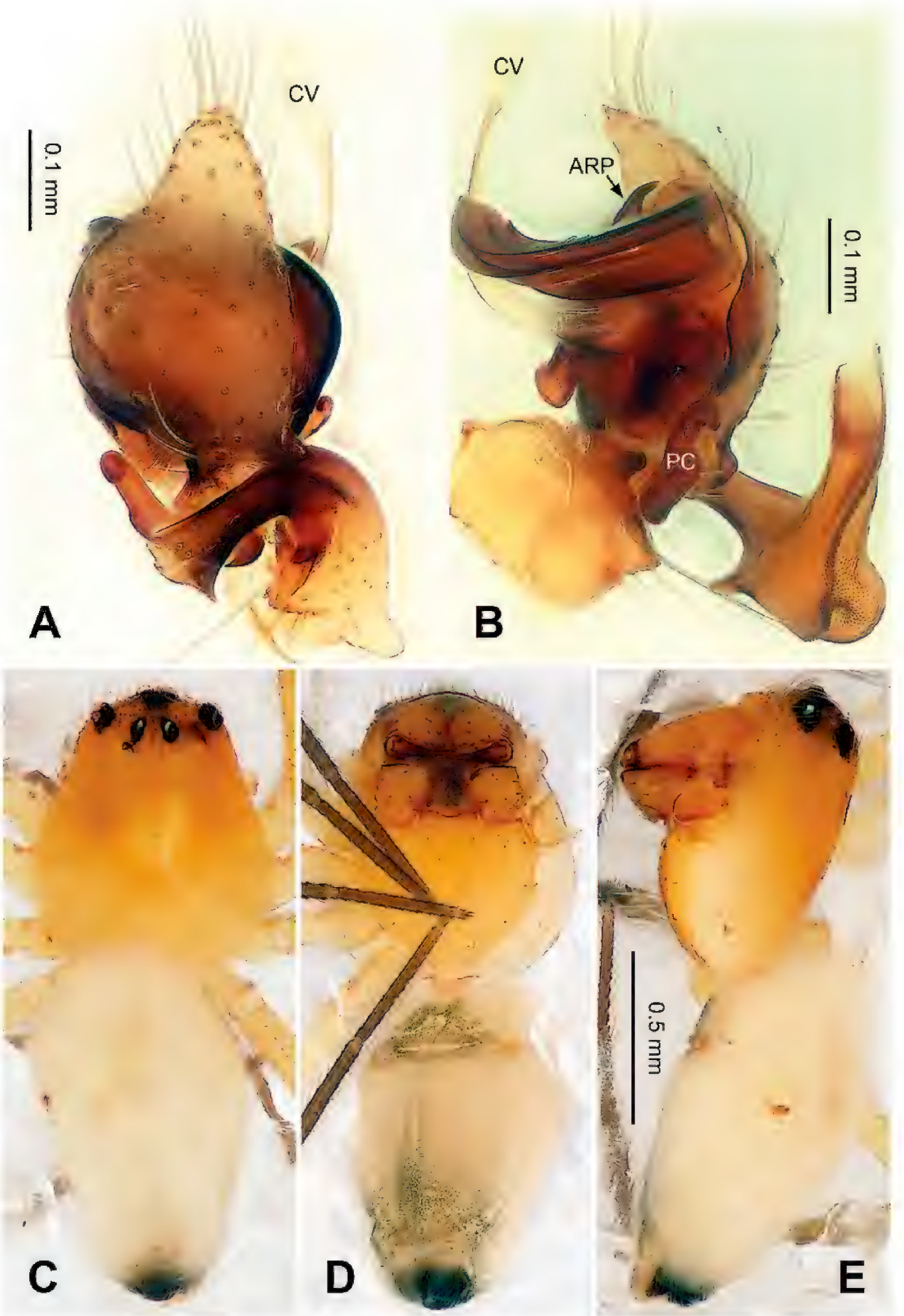


Figure 113. *Vittatus latus* sp. n., male holotype. **A** Right palp, dorsal view **B** Right palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bar: **C** and **D** as **E**.

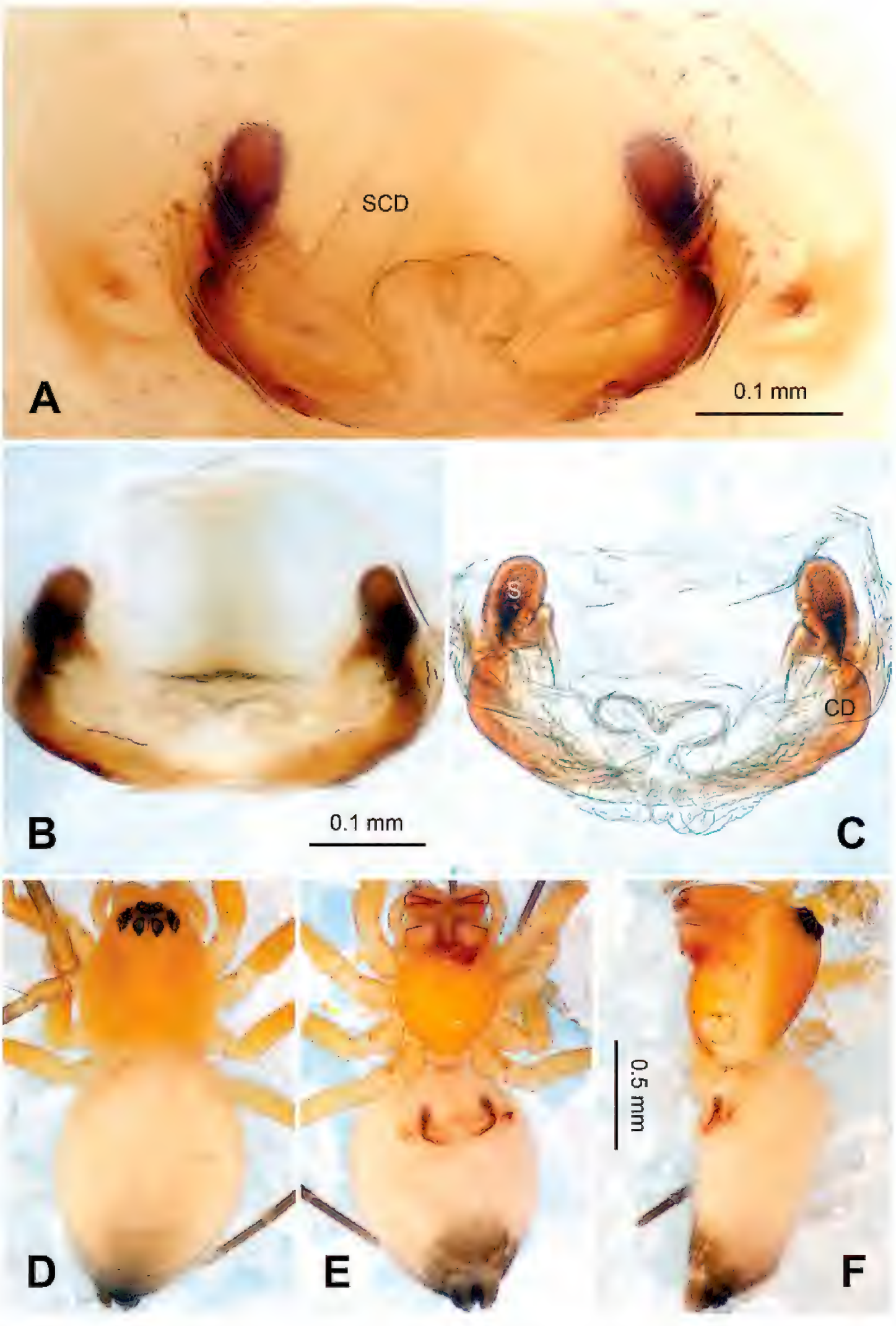


Figure 114. *Vittatus latus* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

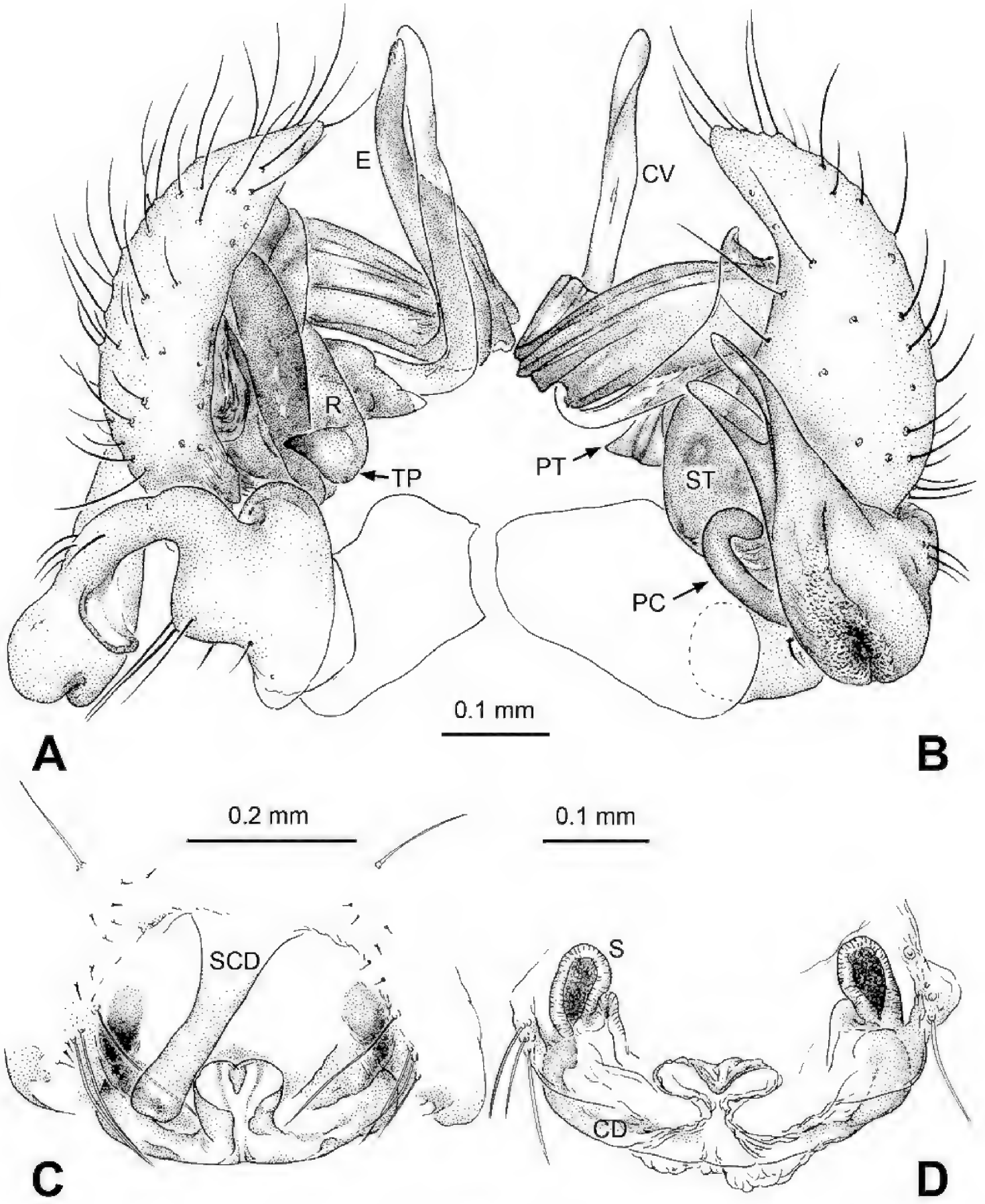


Figure 115. *Vittatus latus* sp. n., male holotype (**A**–**B**) and female paratype (**C**–**D**). **A** Right palp, prolateral view **B** Right palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bar: **A** as **B**.

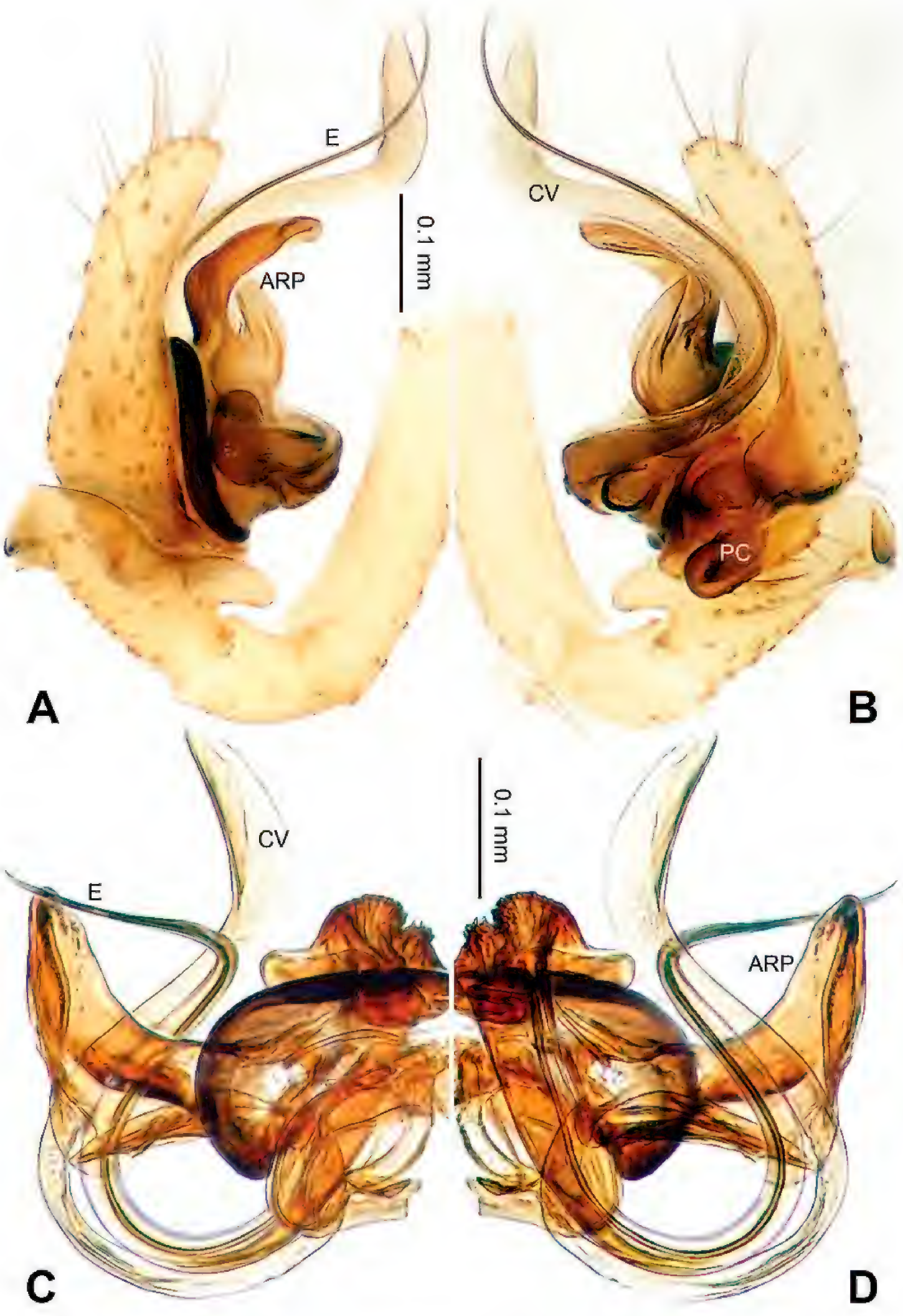


Figure 116. *Vittatus pan* sp. n., male holotype. **A** Palp, prolateral view **B** Palp, retrolateral view **C** Embolic division, retrolateral view **D** Embolic division, prolateral view. Scale bars: **B** as **A**, **C** as **D**.

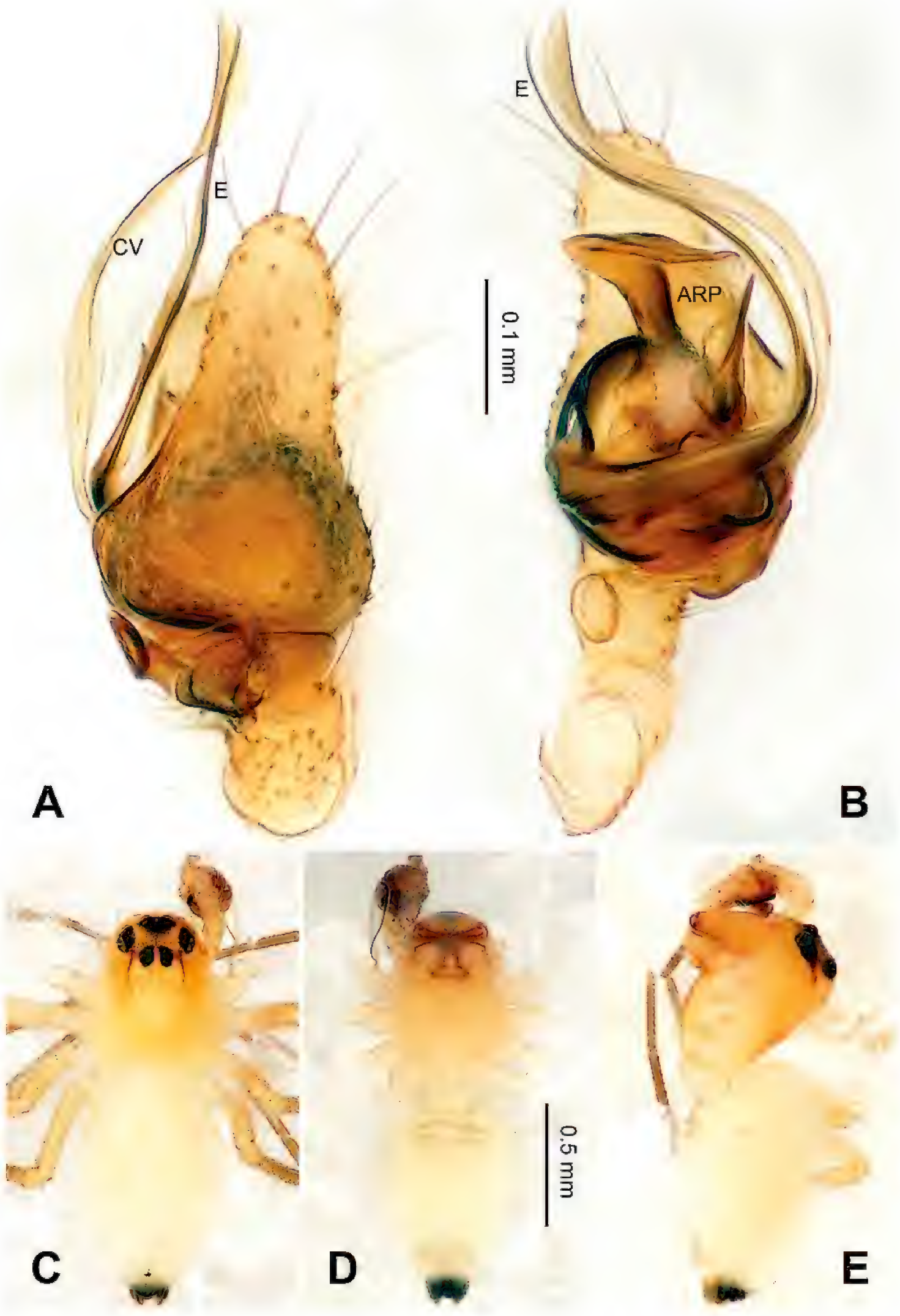


Figure 117. *Vittatus pan* sp. n., male holotype. **A** Palp, dorsal view **B** Palp, ventral view **C** Habitus, dorsal view **D** Habitus, ventral view **E** Habitus, lateral view. Scale bars: **A** as **B**, **C** and **E** as **D.**

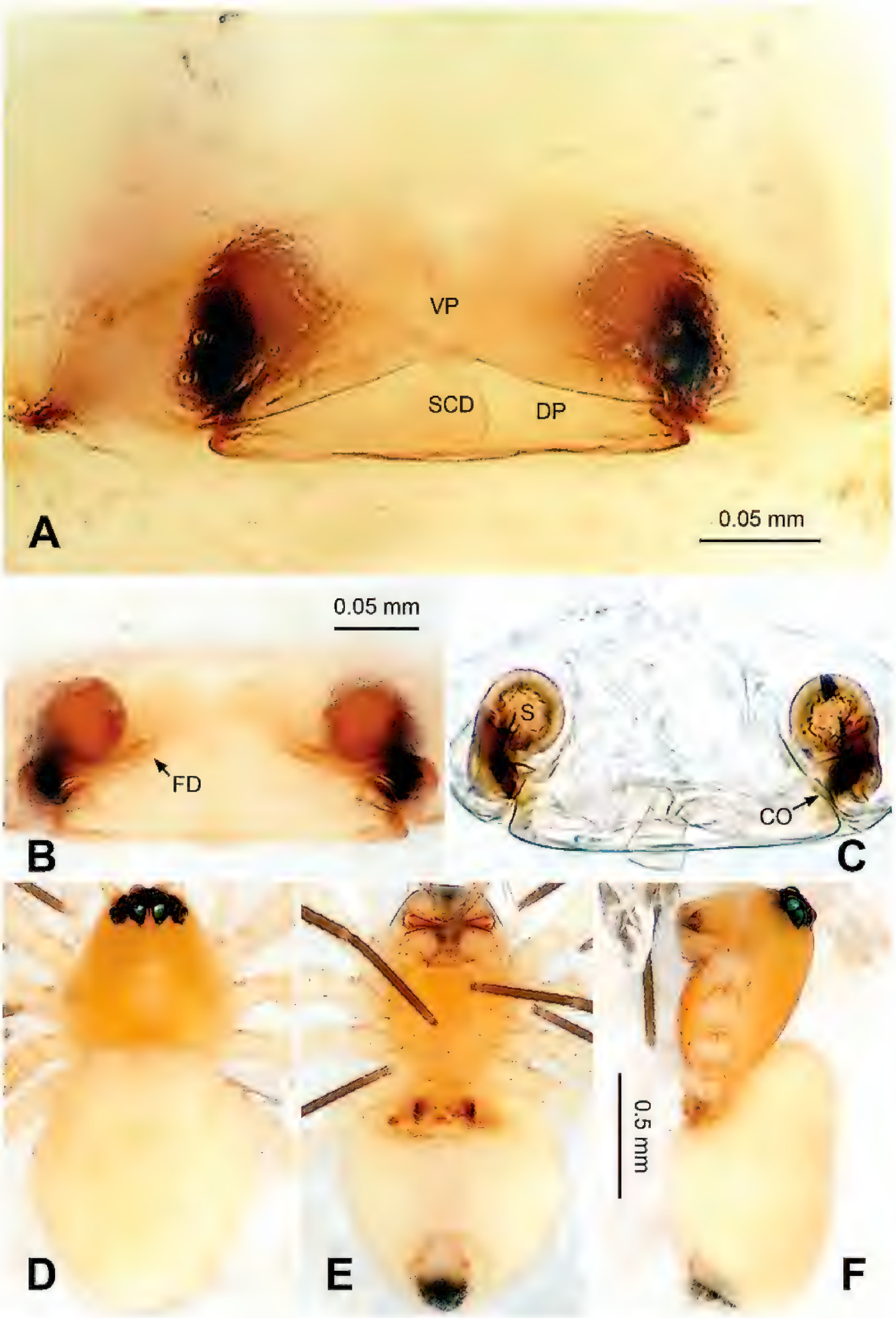


Figure 118. *Vittatus pan* sp. n., female paratype. **A** Epigyne, ventral view **B** Epigyne, dorsal view **C** Vulva, dorsal view **D** Habitus, dorsal view **E** Habitus, ventral view **F** Habitus lateral view. Scale bars: **C** as **B**, **D** and **E** as **F**.

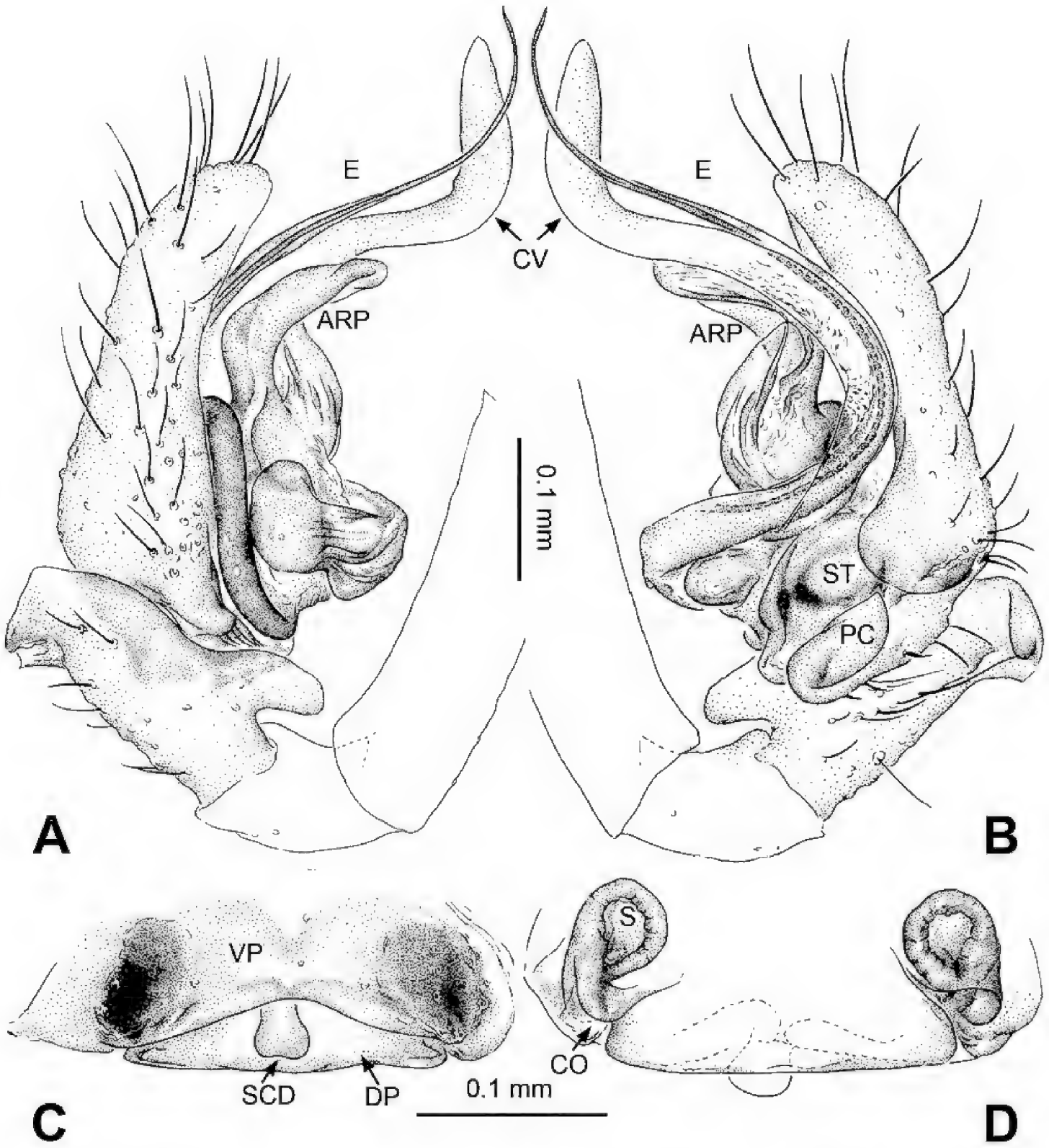


Figure 119. *Vittatus pan* sp. n., male holotype (**A**–**B**) and female paratype (**C**–**D**). **A** Palp, prolateral view **B** Palp, retrolateral view **C** Epigyne, ventral view **D** Vulva, dorsal view. Scale bar: **A** as **B**, **C** as **D**.

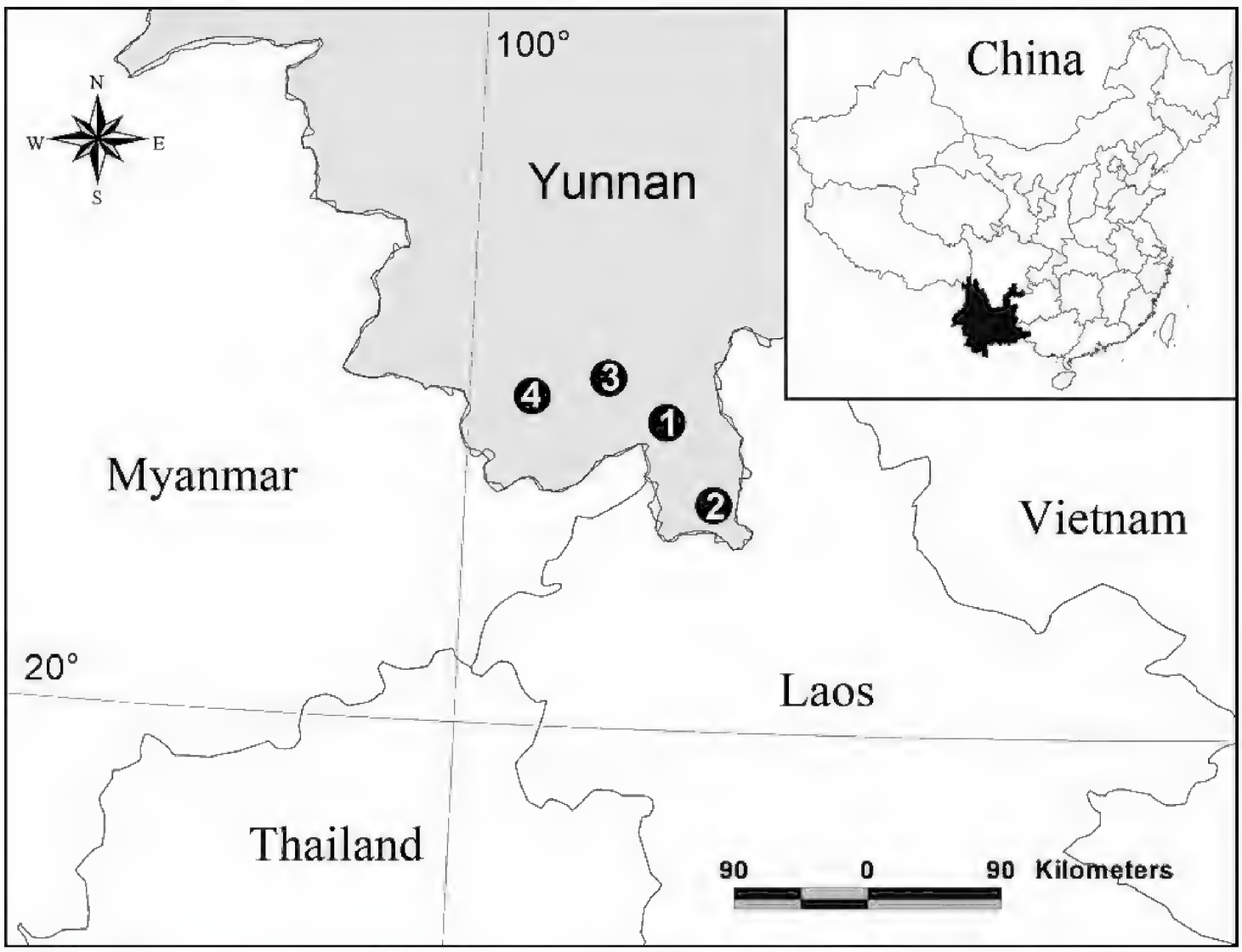


Figure 120. Four main collection localities in Xishuangbanna, Yunnan China. **1** Menglun Town **2** Mengla Town **3** Mengyang Town **4** Menghai Town.

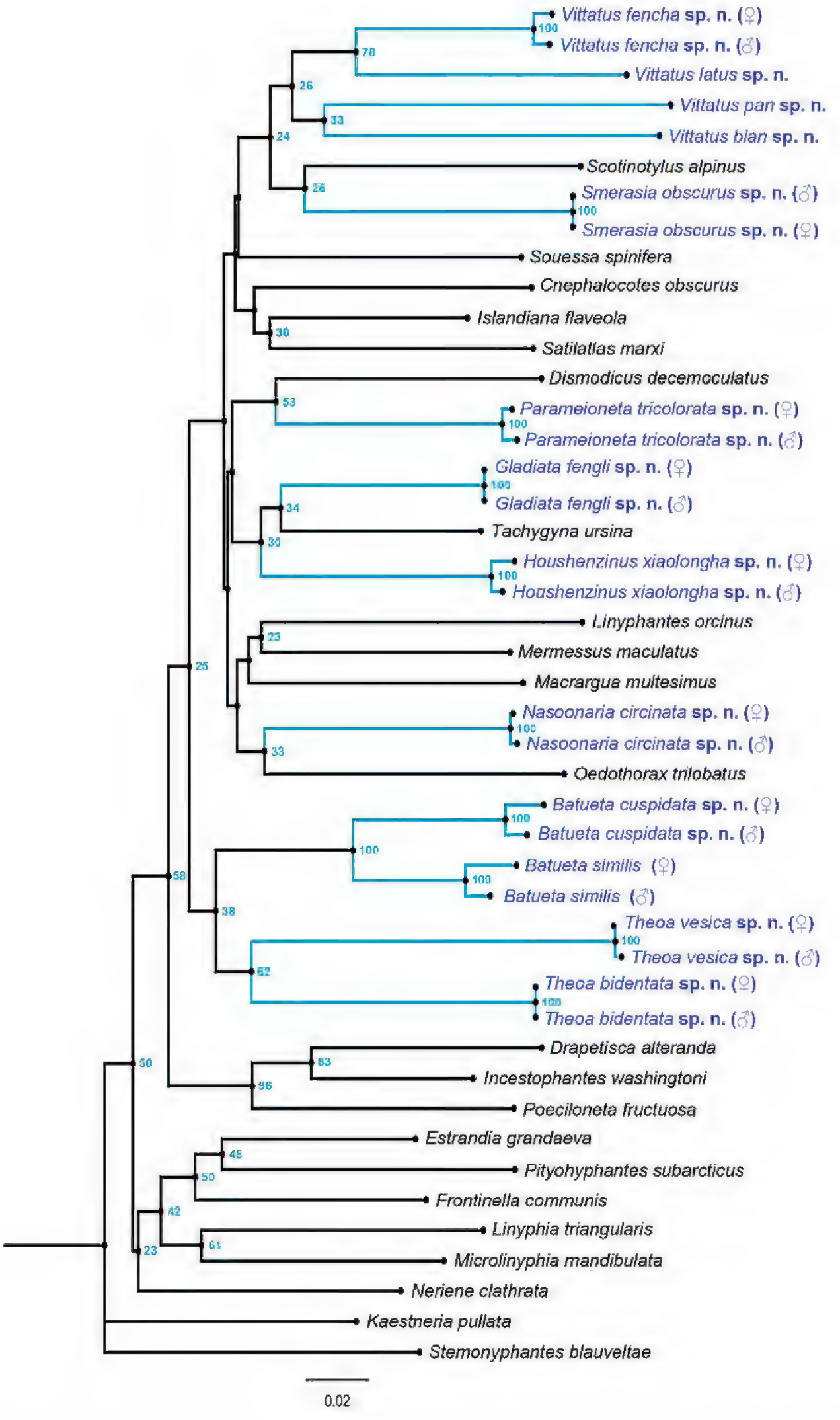


Figure 121. Neighor-joining tree based on DNA barcode of the mitochondrial COI sequences from paired Xishaungbanna linyphiids (marked in blue) and sequences deposited in BOLD systems (marked in black). (K2P model, bootstrap=1000, bootstrap values less than 20% are not shown).

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